

# BOTANICAL ABSTRACTS

A monthly serial furnishing abstracts and citations of publications in the international field of botany in its broadest sense.

## VOLUME III

JANUARY-JUNE, 1920

PUBLISHED MONTHLY UNDER THE DIRECTION OF  
THE BOARD OF CONTROL OF BOTANICAL ABSTRACTS, INC.

### BOARD OF EDITORS FOR 1920 AND ASSISTANT EDITORS

Editor-in-Chief, BURTON E. LIVINGSTON  
The Johns Hopkins University, Baltimore

Associate, LON A. HAWKINS  
U. S. Bureau of Plant Industry, Washington, D. C.

### EDITORS FOR SECTIONS

**Agronomy.** C. V. PIPER, U. S. Bureau of Plant Industry, Washington, D. C.—Assistant Editor, MARY R. BURR, U. S. Bureau of Plant Industry, Washington, D. C.

**Bibliography, Biography and History.** LINCOLN W. RIDDLE, Harvard University, Cambridge, Massachusetts.

**Botanical Education.** C. STUART GAGER, Brooklyn Botanic Garden, Brooklyn, New York.—Assistant Editor, ALFRED GUNDERSEN, Brooklyn Botanic Garden, Brooklyn, New York.

**Cytology.** GILBERT M. SMITH, University of Wisconsin, Madison, Wisconsin.—Assistant Editor, GEO. S. BRYAN, University of Wisconsin, Madison, Wisconsin.

**Ecology and Plant Geography.** H. C. COWLES, The University of Chicago, Chicago, Illinois.—Assistant Editor, GEO. D. FULLER, The University of Chicago, Chicago, Illinois.

**Forest Botany and Forestry.** RAPHAEL ZON, U. S. Forest Service, Washington, D. C.—Assistant Editor, J. V. HOPMANN, U. S. Forest Service, Wind River Experiment Station, Stabler, Washington.

**Genetics.** GEORGE H. SHULL, Princeton University, Princeton, New Jersey.—Assistant Editor, J. P. KELLY, Pennsylvania State College, State College, Pennsylvania.

**Horticulture.** J. H. GOTFREY, New Hampshire Agricultural College, Durham, New Hampshire.

**Miscellaneous, Unclassified Publications.** BURTON E. LIVINGSTON, The Johns Hopkins University, Baltimore, Maryland.

**Morphology, Anatomy and Histology of Vascular Plants.** E. W. SINNOTT, Connecticut Agricultural College, Storrs, Connecticut.

**Morphology and Taxonomy of Algae.** E. N. TRANSEAU, Ohio State University, Columbus, Ohio.

**Morphology and Taxonomy of Bryophytes.** ALEXANDER W. EVANS, Yale University, New Haven, Connecticut.

**Morphology and Taxonomy of Fungi, Lichens, Bacteria, and Mycomycetes.** E. W. OLIVE, Brooklyn Botanic Garden, Brooklyn, New York.—Assistant Editor, H. M. FITZPATRICK, Cornell University, Ithaca, New York.

**Paleobotany and Evolutionary History.** EDWARD W. BERRY, The Johns Hopkins University, Baltimore, Maryland.

**Pathology.** G. H. COONS, Michigan Agricultural College, East Lansing, Michigan.—Assistant Editor, C. W. BENNETT, Michigan Agricultural College, East Lansing, Michigan.

**Pharmaceutical Botany and Pharmacognosy.** HEBER W. YOUNGKEN, Philadelphia College of Pharmacy and Science, Philadelphia, Pennsylvania.—Assistant Editor, E. N. GATHERCOAL, University of Illinois, Urbana, Illinois.

**Physiology.** B. M. DUGGAR, Missouri Botanical Garden, St. Louis, Missouri.—Assistant Editor, CARROLL W. DODGE, Brown University, Providence, Rhode Island.

**Soil Science.** J. J. SKINNER, U. S. Bureau of Plant Industry, Washington, D. C.—Assistant Editor, F. M. SCHERTZ, U. S. Bureau of Plant Industry, Washington, D. C.

**Taxonomy of Vascular Plants.** J. M. GREENMAN, Missouri Botanical Garden, St. Louis, Missouri.—Assistant Editor, E. B. PAYSON, Missouri Botanical Garden, St. Louis, Missouri.

### BIBLIOGRAPHY COMMITTEE FOR 1920

J. R. SCHRAMM, *Chairman*, Cornell University, Ithaca, New York

H. O. BUCKMAN  
W. H. CHANDLER  
A. J. EAMES

R. A. EMERSON  
H. M. FITZPATRICK  
R. HOSMER

L. KNUDSON  
E. G. MONTGOMERY  
D. REDDICK

L. W. SHARP  
K. M. WIEGAND

BALTIMORE, U. S. A.

WILLIAMS & WILKINS COMPANY

1920

COPYRIGHT, 1920  
WILLIAMS & WILKINS COMPANY  
BALTIMORE  
U. S. A.

## CONTENTS

Board of Editors and Assistant Editors for volume III. . . . . Page i  
Sections:

Agronomy . . . . .	Entries 162-203, 458-488, 872-920, 1324-1416, 1853-1897
Botanical Education . . . . .	Entries 204-210, 489-502, 921-927, 1417-1418, 1898-1929
Cytology . . . . .	Entries 1930-1943
Ecology . . . . .	Entries 1944-1986
Forest Botany and Forestry . . . . .	Entries 1-17, 211-215, 503-584, 928-970, 1419-1469, 1987-2070
Genetics . . . . .	Entries 18-77, 216-308, 585-672, 971-1048, 1470-1523, 2071-2220
Horticulture . . . . .	Entries 78-90, 309-336, 673-689, 1049-1097, 1524-1563
Horticulture-Products . . . . .	Entries 1564-1566, 2392-2407
Floriculture and Ornamental Horticulture . . . . .	Entries 2221-2299
Fruits and General Horticulture . . . . .	Entries 2300-2380
Vegetable Culture . . . . .	Entries 2381-2391
Morphology, Anatomy, and Histology of Vascular Plants . . . . .	Entries 91-93, 337-340, 690-693, 1098-1116, 1567-1576, 2408-2458
Morphology and Taxonomy of Algae . . . . .	Entries 694-698, 1577-1582, 2459-2465
Morphology and Taxonomy of Bryophytes . . . . .	Entries 699-704, 1117-1119, 1583-1589, 2466-2479
Morphology and Taxonomy of Fungi, Bacteria, and Myxomycetes . . . . .	Entries 341-382, 705-732, 1120-1138, 1590-1596, 2480-2499
Paleobotany and Evolutionary History . . . . .	Entries 94-95, 733-736, 1140-1144, 1597-1621, 2500-2520
Pathology . . . . .	Entries 96-122, 383-421, 737-799, 1145-1201, 1622-1669, 2521-2790
Pharmaceutical Botany and Pharmacognosy . . . . .	Entries 123-126, 422-432, 833-840
New Plants for Pharmaceutical Uses . . . . .	Entries 1670-1673, 2791-2792
Medicinal Plant Culture and Preparation . . . . .	Entries 1674-1689, 2793-2798
Commercial Supplies . . . . .	Entries 1690-1695, 2799-2803
Anatomy . . . . .	Entries 1696-1699, 2804-2809
Adulteration and Pharmaco-Analysis . . . . .	Entries 1700-1710, 2810-2811
Plant Chemistry . . . . .	Entries 1711-1734, 2812-2817
Poisonous Plants and Insecticides . . . . .	Entries 1735-1737
Plant Chemistry and Pharmaceutical Assays . . . . .	Entries 2818-2821
Physiology:	
General . . . . .	Entries 433, 1202, 2822
Protoplasm, Motility . . . . .	Entries 1738-1740, 2823-2824
Diffusion, Permeability . . . . .	Entries 434-435, 800-801, 1203-1207, 2825-2826
Water Relations . . . . .	Entries 436, 802-803, 1208, 1741-1742, 2827-2829
Mineral Nutrients . . . . .	Entries 437, 804, 1209, 1743, 2830-2832
Photosynthesis . . . . .	Entries 1744, 2833
Metabolism (General) . . . . .	Entries 127-133, 438-446, 805-814, 1210-1228, 2834-2863
Metabolism (Nitrogen Relations) . . . . .	Entries 447, 815-816, 1745-1752, 2864-2877
Metabolism (Enzymes, Fermentation) . . . . .	Entries 134-135, 448, 449, 817-821, 1229-1230, 1753-1754, 2878-2883
Metabolism (Respiration) . . . . .	Entries 1231-1235, 2884
Organism as a Whole . . . . .	Entries 136-137, 450-451, 822, 1236-1241, 1755, 2885-2892
Growth, Development, Reproduction . . . . .	Entries 452, 823-825, 1242-1244, 1756, 2893-2896
Movements of Growth and Turgor Changes . . . . .	Entries 826, 1245-1247, 1757, 2897
Germination, Renewal of Activity . . . . .	Entries 2898-2901
Regeneration . . . . .	Entries 1248, 2902



Temperature Relations.....	Entries 453, 827-828, 1249, 1758, 2903-2907
Radiant Energy Relations.....	Entries 2908-2910
Toxic Agents.....	Entries 138-140, 454, 829-831, 1250, 1759, 2911-2914
Electricity and Mechanical Agents.....	Entries 1251, 2915
Miscellaneous.....	Entries 455-457, 832, 1252-1260, 1760-1762, 2916-2919
Soil Science.....	Entries 841-871
General.....	Entries 1763-1778
Fertilization.....	Entries 1261-1268, 1779-1792, 2939
Fertilizer Resources.....	Entries 1269-1270, 1793-1800, 2940-2942
Biology.....	Entries 1271-1275, 2930-2938
Methods.....	Entry 1276
Soil Classification.....	Entries 1277, 1801-1802, 2949
Nitrification.....	Entries 1803-1806
Acidity and Liming.....	Entries 2920-2926
Alkali Salts.....	Entries 2927-2929
Fertility Studies.....	Entries 2943-2948
Moisture Relations.....	Entries 2950-2953
Miscellaneous.....	Entries 1278-1280, 2954-2958
Taxonomy of Vascular Plants:	
General.....	Entries 1807-1815, 2959-3029
Pteridophytes.....	Entries 1281-1285, 1816-1821
Spermatophytes.....	Entries 141-161, 1286-1323, 1822-1842
Miscellaneous, Unclassified Publications.....	Entries 1843-1852, 3030-3061
Index to Authors' Names appearing in volume III.....	Page 447

## INDEX TO AUTHORS' NAMES IN VOLUME III

*(References are to Entry numbers; an asterisk before a number signifies that the entry referred to is by citation alone—no abstract.)*

- A., E. French pines in Norway. 509.
- Aamodt, A. W. Potatoes in Minnesota. 878.
- Aamidt, O. S. (Stakman, E. C., H. H. Hayes, O. S. Aamodt, and J. Leach) 2200.
- Abbott, W. S. Preservation of Pyrethrum heads. 422.
- Abe, A. Inheritance in Sesamum. 2071.
- Aboville, see d'Aboville.
- Abrams, L. R. New California cypress. \*1098, 1822.
- Adami, J. G. Medical contributions to evolution study. 585.
- Adams, Margaret. (Stapledon, R. G., and M. Adams) 1888, 2901.
- Adams, R. L. Orchard irrigation. 1524.
- Adams, S. National law to license and regulate. 2521.
- Adamson, R. S. Flora of Cheshire, England. 1807.
- Addis, J. M. Importance of Carica. 2392.—Sorrel in Cuba. \*1049.
- Adkin, B. W. Pine beetles in Britain. 928.
- Africa, E. M. Coffee rust (*Hemileia*) control. 2522.
- Afzal, Muhammed, and others. Forest administration in Baluchistan, 1917-1918. 1987.
- Ahr, J. Weed control through kainite and calcium cyanamide. (Rev. by Boas) 1857.
- Åkerman, Å. Recovery of frozen plants. \*1249.—Rev. of Malte, M. O. 1380.
- Albertz, H. W. Work of Wisconsin Agric. Exp. Assoc. 2072.
- Albro, H. (Condit, J. J., M. E. Jaffa, and F. W. Albro) 2398.
- Algau, H. Damage from premature forest exploitation. 503.
- Allard, H. A. Aurea character in *Nicotiana*. 217. (Rev. by Yamaha) 2217.—Gigantism in *Nicotiana*. 216.
- Allen, W. J. Peach leaf-curl in New South Wales. 2523.
- Allen, W. J., and W. le Gay Brereton. Powdery mildew of apple in New South Wales. 2524.
- Allison, J. R. (McBeth, I. G., and J. R. Allison) 2346, 2347, 2907.
- Almgren, O. (Lundborg) 648.
- Almquist, E. Rev. of C. T. O. 1019.
- Alsberg, C. L., A. Viehoveer, and C. O. Ewing. Drug importation in U. S. A. 1674.
- Alvaredo S. Nemec's conducting filaments. \*1757, 1930.—Structure of wood vessels, 1567, \*1760, 1931.
- Alvarez, O. P. Phytogeography of Formosa. \*1564.
- Alway, F. A. Relation of movement of water in soil to hygroscopicity and initial moistness. (Anon. rev.) 2950.
- Ameijden, see Van Ameijden.
- Ames, J. W., and G. E. Bolz. Effect of sulfophication and nitrification on potassium. 2930.
- Amilon, J. A. Tree growth and light requirements. 1988.
- Andas, J. W. Chicory cultivation in Australia. 673.—Jerusalem artichoke. 674.
- Anderson, M. (Jardine, J. T., and Anderson) 1371, 1444.
- Anderson, P. J. *Phyllosticta* species. \*737, 705.
- Anderson, S. F. Vine mildew in New Zealand. 2525.
- Andrews, A. L. North American *Sphagnum*, VIII. 2467.—Norwegian *Scapania*. 699.—*Physcomitrium* hybrid. \*218.—Rev. of Hesselbro. 2466.
- Andrews, E. F. Japanese honeysuckle in U. S. A. 1944.
- Anonymous. Wood for fuel. 11.
- Anonymous. Disease resistance in plants. \*18.
- Anonymous. Plant Geography of U. S. A. drug plants. \*185.
- Anonymous. Tillage of Irish grassland. 193.
- Anonymous. Pasture grasses in Ireland. 194.
- Anonymous. Irish agricultural experiments. 195.
- Anonymous. Disease and natural selection. 219.
- Anonymous. "Like marries like." 220.
- Anonymous. Immigration. \*221.
- Anonymous. Heredity of cancer. \*222.



- Anonymous. Dairy breeding. \*223.  
 Anonymous. Variation, etc., in protozoa. \*224.  
 Anonymous. Families of first born. \*225.  
 Anonymous. Hybrid cowpeas. \*226.  
 Anonymous. Continuous and discontinuous variation. \*227.  
 Anonymous. Inheritance in *Pisum*. \*228.  
 Anonymous. Japan walnuts and butternuts. 309.  
 Anonymous. Index to Amer. mycological literature. 341, 342.  
 Anonymous. Fruit-tree pests. \*383.  
 Anonymous. Irish agricultural experiments. \*384.  
 Anonymous. Insecticide and fungicide analyses. 385.  
 Anonymous. Potato spraying. 386.  
 Anonymous. Mexican drug plants. 423.  
 Anonymous. Drug Plants of U. S. A. 424.  
 Anonymous. Wheat tests in Australia. \*455.  
 Anonymous. Nature-study prizes, etc., in Brooklyn. 489.  
 Anonymous. Courses at Brooklyn Bot. Gard. 490.  
 Anonymous. Hawaiian forestry. 504.  
 Anonymous. Diseases of exotic trees in New Zealand. 505.  
 Anonymous. Location of forest fires. 506.  
 Anonymous. Forests of Alsace and Lorraine. 507.  
 Anonymous. Rabbit injury to pine plantings in Germany. 511.  
 Anonymous. Disease resistance in plants. 586.  
 Anonymous. Rev. of Sutton. 587.  
 Anonymous. Poultry inheritance at Rhode Island Agric. Exp. Sta. \*590.  
 Anonymous. Occurrence of twins. \*591.  
 Anonymous. Inheritance of blindness. \*592.  
 Anonymous. Plant quarantine. 740.  
 Anonymous. Cinchona in Java. 833.  
 Anonymous. Egyptian opium. 834.  
 Anonymous. Status of liquorice-root in England. 835.  
 Anonymous. Soil experiments in Ireland. \*841.  
 Anonymous. Soil experiments in U. S. A. 842.  
 Anonymous. Soil experiments in Australia. 843.  
 Anonymous. Wheat tests in Australia. 844.  
 Anonymous. Rev. of Fernow, B. E. 944.  
 Anonymous. Rev. of Pearson, G. A. 959.  
 Anonymous. Market news service. 879.  
 Anonymous. World supply of cereals. 891.  
 Anonymous. Wheat and oats in New Zealand. 895.  
 Anonymous. Lucerne in New Zealand. 896.  
 Anonymous. Agriculture in New Zealand. 897.  
 Anonymous. Forestry in South Africa. 929.  
 Anonymous. Casuarina woods in Mauritius. 930.  
 Anonymous. Trees of British Guiana. 931.  
 Anonymous. Goats in Norwegian forests. 934.  
 Anonymous. Albino of *Botrytis*. \*971.  
 Anonymous. Hybrid cowpeas. 972.  
 Anonymous. Variability in plants. 973.  
 Anonymous. Insecticides and fungicides in New Zealand. \*1050, 1148.  
 Anonymous. Home Orchard, New Zealand. 1051, \*1149.  
 Anonymous. Variation in jasmine. \*1099.  
 Anonymous. Orchard pests and diseases, New Zealand. 1145.  
 Anonymous. Bordeaux mixture. \*1146.  
 Anonymous. Tree diseases, New Zealand. 1147.  
 Anonymous. Rev. of Fernow, B. E. 1171.  
 Anonymous. Rice. 1324.  
 Anonymous. Fats from rice hulls. 1325.  
 Anonymous. Wheat as food. 1326.  
 Anonymous. Wheat varieties in South Africa. \*1327.  
 Anonymous. Maize varieties for Connecticut. \*1328.  
 Anonymous. Maize in South Africa. \*1329.  
 Anonymous. Economic grasses in South Africa. \*1330.  
 Anonymous. Ashes as clover fertilizer. 1331, \*1779.  
 Anonymous. Field peas in Norway. 1332.  
 Anonymous. Tobacco curing in Australia. 1333.  
 Anonymous. Germinating hard seeds. 1334.  
 Anonymous. Trees in prairie crop rotation in Russia. 1335.  
 Anonymous. Food value of *Arachis* (peanut) 1336.  
 Anonymous. Sisal culture. 1337, 1338, 1339, 1340.  
 Anonymous. Guinea corn (*Sorghum*) in Jamaica. 1341.  
 Anonymous. *Climedia* as weed. 1342.  
 Anonymous. Grain sorghums. 1343.  
 Anonymous. Casuarina woods in Mauritius. \*1345.

- Anonymous. Agriculture in South Africa. 1346.
- Anonymous. Agricultural schools in South Africa. \*1347.
- Anonymous. Forest investigation in U. S. A. 1419.
- Anonymous. Forests in South Africa. 1420.
- Anonymous. National forest policy for U. S. A. 1421.
- Anonymous. Forestry in Hong Kong, 1917. 1422.
- Anonymous. Rubber industry of future. 1423.
- Anonymous. Transplanting large trees. 1424.
- Anonymous. Inheritance in poultry. 1470.
- Anonymous. New kelp project in San Diego. 1577.
- Anonymous. Fungicide laws in Victoria. \*1622.
- Anonymous. Large *Asplenium ebeneum*. 1816.
- Anonymous. Fertilizer prices in Spain. 1793.
- Anonymous. Potash from smelter and cement wastes. 1794.
- Anonymous. Molasses as cane fertilizer in Australia. 1780.
- Anonymous. Japanese chiretta (*Swertia*). 1705.
- Anonymous. Burma cutch. 1695.
- Anonymous. Anatomy of *Eriocaulonaceae*, etc. 1696.
- Anonymous. Squibbs' Atlas. 1691.
- Anonymous. Seed mixtures for clover-sick land. \*1853, \*2529.
- Anonymous. Agricultural schools and experiment farms in South Africa. 1899.
- Anonymous. Rev. of Cook. 1900.
- Anonymous. Botanic gardens of British West Indies. \*1901.
- Anonymous. Rev. of Gruenberg. 1902.
- Anonymous. American boxwood substitutes. 1989.
- Anonymous. Brimstone tree (*Morinda*) of Sierra Leone. 1990.
- Anonymous. Forest service of French army of the Orient. 1991.
- Anonymous. Tabanuco gum (*Dacryodes*). 1992.
- Anonymous. Australian grass-tree resins (*Xanthorrhoea*). 1993.
- Anonymous. Oil in seeds. \*2812.
- Anonymous. Textile fibers in Germany. \*1994.
- Anonymous. Tonka beans (*Dipterix*). 2801, \*1995.
- Anonymous. Field peas in Norway. \*2073.
- Anonymous. Genetical Society (England). 2075, 2076.
- Anonymous. Improvement of freesias. 2077.
- Anonymous. Sea-island cotton in West Indies. 2078.
- Anonymous. Annual poppies. 2221.
- Anonymous. Bulbs in fiber. 2222.
- Anonymous. Decorative perennials for continuous bloom. 2223.
- Anonymous. Delphinium varieties. 2224.
- Anonymous. Barberry eradication. 2225.
- Anonymous. Yellow roses. 2226.
- Anonymous. *Mysotis* varieties. 2227.
- Anonymous. Phoenix *Roebelinii*. \*2228.
- Anonymous. Forsythia varieties. \*2229.
- Anonymous. Weeping trees. \*2230.
- Anonymous. Standard roses. \*2231.
- Anonymous. New hydrangeas. \*2232.
- Anonymous. Box-barberry. \*2233.
- Anonymous. *Fraxinella* (*Dictamnus*). \*2234.
- Anonymous. Japanese yew. \*2235.
- Anonymous. Trailing arbutus bush (*Abelia*). 2236.
- Anonymous. Utility of rhododendrons. \*2237.
- Anonymous. Rev. of Rept. of Kistenbosch Garden. 2238.
- Anonymous. Plants in aroid house at Missouri Bot. Gard. 2239.
- Anonymous. Iceland poppy. \*2240.
- Anonymous. Winter protection. \*2300.
- Anonymous. Strawberries for different locations. \*2302.
- Anonymous. Asiatic crabapples. \*2303.
- Anonymous. Coconuts, etc., in the Pacific Islands. 2304.
- Anonymous. Irrigation and fertilization of trees in Spain. 2305.
- Anonymous. Date packing house in California. 2306.
- Anonymous. Harvesting frozen lemons. 2307.
- Anonymous. Anti-orchard-heating ordinance of Pomona, California. 2308.
- Anonymous. Summer beet varieties. 2381.
- Anonymous. Spring beef varieties. 2382.
- Anonymous. Mid-season pea varieties. 2383.
- Anonymous. Late pea varieties. 2384.
- Anonymous. Castor bean in the Philippines. 2393.



- Anonymous. Castor bean in India. 2394.  
 Anonymous. Castor bean in the tropics. 2395.  
 Anonymous. Anthocyanin pigments in plants. \*2408, 2834.  
 Anonymous. Rev. of Malmanche. 2409.  
 Anonymous. Recognition of mushrooms. 2480.  
 Anonymous. Rev. of Henry. \*2500.  
 Anonymous. Cacao disease (Diplodia) in Western Africa. 2526.  
 Anonymous. Coffee disease (Hemileia) in eastern Africa. 2527.  
 Anonymous. Silver leaf in fruit trees. \*2530.  
 Anonymous. Spraying. 2531.  
 Anonymous. Plant pests in England and Wales, 1917. 2532.  
 Anonymous. Spray calendar for citrus fruit. 2533.  
 Anonymous. Rept. of Klosternenberg Institute, 1917-1918. 2534.  
 Anonymous. Grape mildew (Oidium). 2535.  
 Anonymous. Bunt and smut of cereals. 2537.  
 Anonymous. Plant legislation in Dominica. 2538.  
 Anonymous. Plant legislation in Grenada. 2539.  
 Anonymous. Plant legislation in St. Vincent. 2540.  
 Anonymous. Botrytis cinerea. 2541.  
 Anonymous. Plant diseases in England. 2542.  
 Anonymous. Onion disease (Sclerotium). 2543.  
 Anonymous. Black-current rust (*Ribes nigrum*) 2544.  
 Anonymous. Potato disease. 2545.  
 Anonymous. Onion disease in England. 2546.  
 Anonymous. Plant cancer. 2547.  
 Anonymous. Dutch phytopathological service reports. 2548.  
 Anonymous. Formalin treatment of seeds. \*2549.  
 Anonymous. Scottish station for plant building. 2793.  
 Anonymous. Citronella oil in Burma. 2794.  
 Anonymous. Rev. of Hoagland and Sharp. \*2920.  
 Anonymous. Rev. of Hutchinson. \*2921.  
 Anonymous. Rev. of Gainey. \*2931.  
 Anonymous. Rev. of Hills. \*2932.  
 Anonymous. Rev. of Millar. 2933.  
 Anonymous. Rev. of Hoagland. \*2943.  
 Anonymous. Rev. of Howard. \*2944.  
 Anonymous. Rev. of Alway and McDole. 2950.  
 Anonymous. Rev. of Stewart. 2951.  
 Anonymous. Rev. of Britton. \*2959.  
 Anonymous. Rev. of Ewart, Davies, and others. 2960.  
 Anonymous. Rev. of Lewis. \*2961.  
 Anonymous. Rev. of Flora of tropical Africa, vol. IX, part II. \*2962.  
 Anonymous. Rubber substitute from Euphorbiaceae. 3030.  
 Anonymous. Japanese vegetable-oil industry. \*3031.  
 Anrep, A. Peat bogs in Canada. 3032.  
 Anstead, D. Fungoid diseases in southern India, 1917. 2550.  
 Antevs, E. Liassic flora of Hör sandstone. 2501.  
 Appel, O. Leaf-roll disease of potatoes. (Rev. by Kirchner, P.) 2676.—Potato plant. 1348, 2551.—Potatoes in America and Germany. 1623.  
 Appleman, C. O. Effects of salts on sugar inversion. \*1210.—Oxygen and carbohydrate metabolism in sweet potato. \*1211.—Rôle of glucosides in plants. 1212.—Root growth in cuttings. 1242.  
 Appleman, C. O., and J. M. Arthur. Carbohydrate metabolism in green sweet corn. 2835.  
 Arber, A. Aquatic Angiosperms. 733, \*1945.—Heterophylly in aquatics. 1100.—"Law of Loss" in evolution. 2502.—Monocotyledonous leaves. (Rev. by Coulter) 2423.  
 Arber, E. A. N. Cones of *Williamsonia*. 2503. Morphology of *Williamsonia*. \*1101, 1143.  
 Arcangeli, G. *Diospyros* varieties in Italy. 1052, 1053.  
 Arias, B. Coriander (*Eryngium*) in Cuba. 1670.  
 Arisz, W. H. Laticiferous system of *Hevea*. 2410.  
 Arnaud, G. (Marchal and G. Arnaud) 1645.—Disease of *Helleborus* (*Entylonia*). 2552.—Sooty molds in France. 343.—Rev. of J. A. Holmes, *et al.* 513.  
 Arnd, T. Rev. of Volhard, J. 1805.  
 Arrould, A. Fumes damaging vegetation. 1150, \*1250.  
 Arny, A. C., and R. J. Garber. Plot yields and rod-row method. 165, 2079.  
 Arny, A. C., and H. K. Hayes. Technique of plat tests. \*593, 976.



- Arny, A. C., and F. H. Steinmetz. Plot yields by square-yard method. 166.
- Arthur, J. C. New Uredineae, XI. 344 — Rev. of Reed, G. M. \*2553.
- Arthur, J. M. (Appleman, C. O., and Arthur) 2835.
- Artschwager, E. F. Potato leaf-roll. 1151.
- Asai, Toichi, and Makato Nakamuro. D-mannin in Gardenia. 2836.
- Ashby, S. F. Bud-rot disease of coconuts. 1152.—(Rev. by Nowell, W.) 2714.—Potato blight. 1153.—Potato leaf-roll in Jamaica. 2554.
- Ashe, A. New microscope lamp. 1843.
- Ashe, L. H. (Northrup, J. H., Ashe, and J. K. Senior) 2890.
- Ashe, W. W. Trees and shrubs of Washington, D. C. 2963.
- Aston, B. C. Pasture in New Zealand. 900, \*1261.
- Astley, H. D. Hybrid parrakeets. 2080.
- Atanasoff, D. Ascospore discharge. 706.
- Atkinson, A. Pastures in Montana. 1349.
- Atkinson, G. F. Collybia in Eastern U. S. A. 1120.
- Audas, J. W. Litchi in Australia. 2309.
- Aubert, L. G. Oidium and French oaks. 1996, \*2555.
- Audebert, O. Vine mildew control in France. 2556.
- Ayres, W. E. Cotton culture. 910.—Cotton harvesting. 908.—Cotton varieties. 909.
- B., D. New ornamental shrubs. 1525.
- Bass Becking, L. G. M. Panmictic population. 229.
- Babbitt, W. H. Lumbering in Panama Canal zone. 1425.
- Babington, F. W., A. Tingle, and C. E. Watson. Dextrin analysis. 1712.
- Baccarini, P. Fungi from Eritrea. 1121.
- Backhouse, W. O. Inheritance of glume length in *Triticum polonicum*. (Rev. by Lehman) 2157.
- Backman, G. (Lundborg, H.). Human races in Sweden. 648.
- Badoux, H. Nematode injury to pine in Switzerland. 15.
- Baerthlein, K. Variation in bacteria. 19.
- Bailey, H. S. Fats and oils in United States. 196, \*310.
- Bailey, I. W. Angiosperm wood lacking vessels. (Rev. by Coulter) 2425.—Cell division in gymnosperms. 1932, \*2411.—Rev. of MacDaniels. 2412.
- Bailey, L. H. (Editor). Standard cyclopedia of horticulture, vol. 6, s-z, 1917. (Anon. (J. K. R.) rev.) 2301.
- Bailey, P. J. Rev. of Kuiper, K. 1489.
- Baker, E. G. African species of *Allophylus*. 2964.
- Baker, A. L. Potato grading in U. S. A. 459.
- Baldacci, A., and A. Beguinot. Autumn and winter flora of Vallona. \*2965.
- Baldensperger, Ph. J. Punic bees and parthenogenesis. 20.
- Ball, E. D. Potato leaf-hopper. 387.—Potato tip burn and leaf-hopper. 2557, 2559. Spray material and application. 2558.
- Ball, E. D., and S. B. Fracker. Barberry (*Berberis*) eradication in Wisconsin. 2561.—White pine blister rust (*Cronartium*) in Wisconsin. 2560.
- Ballou, H. A. Chinch-bug fungus in Antigua. \*1624.
- Bär, Joh. Vegetation of Isomo valley, Switzerland. 1946.
- Barber, C. A. Growth of sugar-cane. 1854.—Sugar-cane in India. \*1350, \*2562.
- Barber, Helene. (Hulton-Frankel, F., H. Barber, and E. Pile) 440, 441.
- Barker, B. T. P., and C. T. Giningham. *Rhizoctonia* of asparagus. 96.
- Barnard, J. E. Limits of microscopy. 3033.
- Barnola, see de Barnola.
- Barre, H. W. (Conradi, A. F., and H. W. Barre) 79, 99.
- Barrus, M. F. Seed potato improvement. 919, \*1154.
- Barss, H. P. Non-parasitic prune diseases. 2310.—Potato disease conference. 2563.—Prune diseases. 1625, \*1761.
- Barthe, A. B. Castor bean in Cuba. 875, 1054.—Castor bean and silkworms. \*899.—Experimental agronomy for Cuba. 1351.—Mathematics in field experiments. 1855.—School gardens. \*1903.
- Bartlett, F. A. Tree surgery. \*2564.
- Bartlett, H. H. (Cobb, F., and Bartlett) 2099, 2100.
- Bartlett, J. G. Mayflower descendants. 977.
- Bartos, W. Rev. of Richter. 1653.
- Bassler, H. Lepidophyte from the Carboniferous. 1597.
- Batchelor, M. D. Bacteria in intestinal tract. 345.
- Bates, C. G. Evaporimeter for forest studies. \*2827, \*1997.
- Bates, Fdk., and H. W. Bearce. New Baumé scale. \*805.

- Bates, S. C. English walnuts in Alabama. 311.
- Bateson, W. Plant variegation. 594, \*229.  
—Rev. of Lotsy, J. P. 1491.
- Bateson, W., and C. Pellew. Genetics of rogues among peas. (Rev. by Lehmann) 2157.
- Bateson, W., and I. Sutton. Double flowers and sex linkage in *Begonia*. 595.—Hereditry in *Begonia*. 2081.
- Battent, Lily, and H. W. Bywaters. Mould in cocoa butter. 1155.
- Baur, E. Disturbance of dominance and complete linkage. 978.—Mutations of *Antirrhinum majus*. (Rev. by Renner) 2183.  
—Self-sterility in *Antirrhinum*. 2082.
- Bayla, A. M. Hybridization of egg-plants. 2083.
- Beach, W. S. *Fusarium* wilt of *Aster*. 97.—*Septoria*. \*136.—Specialization in *Septoria*. \*346.
- Bean, W. J. *Deutzia compacta*. 2241.—*Malus rivularis*. \*1055, 2311.
- Beardslee, H. C. Michigan *Myxomycetes*. 707.—*Russulas* of North Carolina. 1122.
- Beattie, W. R. City home gardens. \*312.
- Beaumont, A. B. Soil colloidalilty. 1763.
- Beauverd, G. Phytogeography of *Viege* and *Zermat*. 1286.
- Beauverie, J. *Pyrenomycetes* classification. 1123.—Rust spores in grass seeds. 2565.—Selection in cereals. 596.—Rev. of Briquet. \*2413.
- Becking, L. G. M. Baas. Mendelian populations. 2086.—Panmixial populations. 2084, 2085.
- Beeson, C. F. C. Forest insects in British India. 935, 936, 1426.
- Beeson, M. A. Oklahoma Agronomy Department Report, Exp. Sta., 1918. 2087.
- Beguinet, A. (Baldacci, A., and A. Beguinet) 2965.
- Beijerinck, M. W. Enzyme theory of heredity. (Rev. by Matouschek) 2166.—Nitrogen-fixing bacteria. 1750.
- Bell, Francis. Forestry in New Zealand. 937.
- Bell, H. G. Potato fertilizers in U. S. A. 460, \*845.
- Bell, T. R. D., et al. Administration report of forest circles in Bombay Presidency, 1917-18. 1998.
- Benard, R. Hereditary polydactyly. (Rev. by Zalla). 2219.
- Benedict, F. G. (Harris, J. A., and F. G. Benedict) 2134.
- Benedict, R. C. Simplest fern, *Monogramme*. 2414.
- Bengsten, Ida A. *Proteus* organisms. \*708, 2837.
- Bennett, A. Cheshire plants. 2966.—*Potamogeton acutifolius*. 1947.
- Bennett, C. W. *Bacillus carotovorus* on pepper. 741.
- Bennett, E. R. Potato culture in arid region. 885.
- Bensaude, Mathilde. Evolution and sexuality in *Basidiomycetes*. 597.—Life-cycle and sexuality in *Basidiomycetes*. 347. (Rev. by Levine, M.) 644.
- Benton, A. G. Nitrogen metabolism of bacteria. 2864.
- Berg, A. Nematode galls and bunted wheat. 2567.—Rev. of Sirks, M. J. 1511.—(Kajanus and S. O. Berg.) 2149.
- Bergman, H. F. (Soper, E. K., and H. F. Bergman) 1980.
- Beringer, G. M. Rev. of Maiden. \*425.
- Berry, E. W. Cenozoic floras of equatorial America. 1604.—Eocene flora of western Texas. 1607.—Fossil flora of northern Peru. 1606.—Geologic history of *Robinia*, etc. 1603.—*Matonidium* from Colorado Cretaceous. 1601.—Paleobotany in *Encyclopedia Americana*. 1602.—Paleobotany of *Eucalyptus*. 1599.—Tertiary floras of South America. 1605.—Upper Cretaceous floras of the Mississippi embayment. 1600.—Upper Cretaceous Mississippi Gulf. 1598.
- Berry, Edgar. *Digitalis* preparations. 2814.
- Berry, J. B. Measuring woodland products. 1999.—Plant diseases in Georgia. \*743.—Trees in Georgia. \*514, \*675.
- Berry, J. B., and J. K. Giles. Increased corn yields as result of disease control. 461, \*742.
- Bertrand, G. Fruit preserving without heating. 1565.
- Bertrand, Paul. Flora of coal-basin of Lyon, France. 734.
- Berzelius, Jacob. Willow culture in Sweden. 938.
- Bessey, E. A. *Ophiodothella* on *Ficus*. \*744, 709.
- Bessey, E. A., and W. K. Wakomson. Rye smut control. 1156.
- Best, H. Blindness and heredity. 231.
- Bethel, E. Hosts of *Puccinia subnitens*. 2568.
- Bews, J. W. Grasses and grasslands of South Africa. 1287.



- Bexon, D. (Holden, H. S., and D. Bexon) 2427.
- Bhide, R. K. Rice phylogeny and the double-grain variety. \*2415, 2088.
- Biers, P. Nematode, Heterodera. 2566.
- Biers, P. M. Is *Coprinus radicus* a parasite? 2569.
- Biffen. Suppression of characters on crossing. (Rev. by Lehman, E.) 2157.
- Biggar, H. H. Ear characters and maize yield. 1856.
- Bijl, see Van der Bijl.
- Billando, E. Chick-pea diseases in Spain. 2570.
- Binger, C. A. L. Common dyes and inhibitory action on meningococci. 2911.
- Bioletti, F. T., and W. V. Cruess. Grape syrup. 2396.
- Birkner, V. Acidimetry of amino-acids. 2865.
- Bisby, G. R., and A. G. Tolaas. Potato spraying in Minnesota. 2571.
- Bixby, W. G. Japan walnuts resembling butternuts. (Anon. rev.) 309.
- Blackman, F. F. What is botany? \*210.
- Blackman, V. H. Law of plant growth. 2893.—Reconstruction in England. \*208.
- Blackwell, C. P., and R. E. Currin. Field crops in South Carolina. 2089.
- Blair, T. A. Snow and air temperature in Utah. \*515.
- Blair, W. S. Dusting fruit-trees in Canada. 2572, \*2313.
- Blake, S. F. Revision of *Ichthyomethia*. \*1102, 1823.
- Blakeslee, A. F. Mutation in Adzuki bean. \*232, 979, \*1103.
- Blakeslee, A. F., and B. T. Avery, Jr. Mutation in *Datura*. 980.
- Blanchard, E., and C. Perret. Potato leaf-roll in France. 2573, 2574.
- Blanck. Rev. of Blanck. 1798, 1795.—Rev. of von Horvdt, B. 1801.—Milk proteins as source of nitrogen for plants. (Rev. by Blanck) 1751, 1796.—Phonolith as a fertilizer. (Rev. by Blanck) 1795.
- Blount, E. (Falk, G. K., G. McGuire, and E. Blount) 2870.
- Blum. Wind damage to Bavarian highland forests, 1919. 516.
- Blunck, G. "Glyzinal" in microscopy. 3034.
- Blunt, A. W., and others. Assam forest report, 1917. 2000.
- Board of Agriculture, Great Britain. Regulations regarding potato wart disease. 389.—Potato spraying in England. 388.
- Boas. Rev. of Ahr, U. 1857.—Rev. of Bohn, F. 2575.
- Bobilliard, J. 462, \*846.
- Bocher, M. H. School gardens in France. 1056.
- Boek, see Van der Boek.
- Boerker, R. H. D. Forests and snow melting in the Cascade Mountains. 939.
- Bohn, Fr. Potato leaf-roll in Germany. (Rev. by Boas) 2575.
- Bois, D. *Nothopana Davadii*. 1526.
- Bol, D. V. (Plymen, F. J., and D. V. Bol) 2938.
- Boltz, G. E. (Ames, J. W., and G. E. Boltz) 2930.
- Bolzon, P. Appenine flora. \*2967.
- Bonaparte, R. Pteridological notes. 1281.
- Bonar, L. Rusts of Michigan. 1124.
- Bonnier, G. Rev. of Ruby. 2312.
- Boon, C. L. Orchard restoration. \*2314.
- Bos, J. R. Plant life and reproduction. 2822.—Proliferation in *Fragaria*. 2416.—Rev. of Marissen. \*2090.
- Bottomley, A. M. (Pole-Evans, I. B., and Bottomley) 2496.
- Boulenger, G. A. Reversed evolution in a lizard. 599.—Reversibility of evolution in fishes. 598.
- Boulger, G. S. Rev. of Stebbing. \*2001.—Coniferous trees. 9, \*313.
- Bouquet, A. G. B. Pollination of tomatoes. 2091, 2385.
- Bourquelot, Em., and M. Bridel. Action of emulsin. 448, 449.—Biochemistry of French orchids. \*1713.—Loroglossin, a new glucoside. 2839.—Synthesis of gentiobiose, etc. 2838.
- Bourquelot, Em., and H. Herissey. Biochemistry of *Hakea*. \*1714.—Extraction of leaves of *Hakea laurina*. \*438, 426.—Glucoside from *Hakea*. 2840.
- Boveri, T. Merogony in sea-urchin. 600.
- Bower, F. O. Botany of the living plant. (Rev. by C., A. H.) 1844.
- Bowles, C. W. Systematic botany. 2968.
- Bowles, E. A. Frost injury of 1916-17 in England. 2315.—Monograph for amateur gardener. \*2242.
- Bowman, H. H. Plant ecology of Dry Tortugas. 1948.
- Boyd, J. *Nectria cinnabarina* as a parasite. \*940.—*Nectria* on elm and sycamore. 1626.

- Bracher, Rose. *Euglena* deses. \*450.
- Bracken, John. Sunflower silage in Canada. 1858.
- Bradlin, J. W. Wood-splitting mechanism. 517.
- Brand, C. J. (Scofield, C. S., T. H. Kearney, C. J. Brand, O. F. Cook, and W. T. Swingle) 199.
- Brandes, E. W. *Fusarium cubense* and banana wilt. 745.
- Brann, F. R. Citrus diseases. 1057, \*1236, \*1157.
- Braun, Harry. Pre-soaking in seed disinfection. 2576.
- Braun-Boanquet, J. Plant geography of Engadine, etc. 1949.
- Breeze, B. (Robbins, W. W., and Breeze) 1400.
- Brenchley, W. E. Weed eradication. \*1859.
- Brereton, le Gay. (Allen, W. J., and Brereton) 2524.
- Brick, C. Division for Plant Protection, Hamburg, 1916-17. 2577.—Tomato black-spot disease in Germany. 2578, \*2482.
- Bridel, M. (Bourquelot, Em., and M. Bride) 448, 439, 1713, 2838, 2839.
- Bridel, M. M. Biochemistry of *Populus*. \*1715, 2841.
- Bridges, C. B. Mechanism of Mendelian heredity. (Rev. by Lotsy) 1493.—Eosin eye-color in *Drosophila*. \*602, 2092.—Maroon—a recurrent mutation in *Drosophila*. 2094.—Purple eye-color of *Drosophila*. 601.—Vermilion-deficiency. \*603, 981.—(Morgan, T. H., and Bridges) 2176.—(Sturtevant, A. H., C. B. Bridges, and T. H. Morgan) 293.
- Bridges, C. B., and O. L. Mohr. Vortex character in *Drosophila*. 2093.
- Brierley, W. B. Morphological characters of fungi. \*233. An albino mutant of *Botrytis cinerea*. (Anon. rev.) 971.
- Bright, J. W. (Conn, H. J., and J. W. Bright) 352.
- Briosi, G., and R. Narneti. Black canker of chestnut. 2579.
- Briquet, J. Staminal apparatus in compositae. (Rev. by Beauverie) 2413.
- Bristol, B. M. Vitality retained by algae. 694, \*1271.
- Britten, Jas. Bibliographical notes, LXXV. Madeira flowers. 2969.
- Britton, N. L. Flora of Bermuda. (Anon. rev.) 2959.
- Britton, N. L., and J. N. Rose. Cactaceae. 1824.
- Brittlebank, C. C. Green manures in Australia. \*747, 848. Tomato diseases in Australia. \*847, 746.—(Laidlaw, W., and C. C. Brittlebank) 1641.
- Brockmann, J. Leaf-stripping in Switzerland. 1950.
- Broderick, F. W. Apples and plums for northwest Canada. 234, 21.—Parsnip canker in Manitoba. 2580.
- Brotherton, W. E. Inheritance in *Phaseolus*. 2095.
- Brotherton, W., and H. H. Bartlett. Quantitative variations. (Rev. by Coulter) 987.
- Brown, E. D. W. Apogamy in *Camptosorus*. (Rev. by Coulter) 2426.
- Brown, F. B. H. Methods for microscopic study of woods. 337.
- Brown, G. G. Fertilizers for strawberries. 1782.—Orchard fertilizers in Oregon. \*1781, 2318.—Strawberry fertilizer tests, Oregon. \*2316, 2317.
- Brown, H. B. Cotton experiments, 1918, in Mississippi. \*2581.
- Brown, N. C. Italian forestry and the war. 1427.
- Brown, N. E. Defertilization of flowers by insects. \*22, 604.
- Brown, O. W., and L. L. Varrick. Catalytic preparation of amidophenols, etc. \*1213.
- Brown, W. B. Log transportation. 941.
- Brown, W. R. Scientific forest cutting in U. S. A. 518.
- Brown, W. S. Grafting fruit trees. 1527.
- Bruce, J. L. Stock breeding in New Zealand. 23.
- Bruckman, Louisa, and C. S. Gager. Biology in New York City high schools. 1904.
- Brun, see DeBrun.
- Bruner, E. C. Mosaic of sugar-cane in Cuba. 2582.
- Bruner, S. Phomopsis of egg-plant. \*2583.
- Bruner, S. C. Bordeaux mixture. \*1160.—Castor bean pest *Corythuca* and a fungus. 1159.—Coconut diseases in Cuba. 1158.—(Johnston, J. R. and S. C. Bruner) 404.
- Bruntz, L. *Tilletia* spores in human feces. 1710.
- Brush, W. D. Elm wood in U. S. A. 519.
- Bryant, R. C. War and lumbering in U. S. A. 520.



- Buckner, G. D. Ash composition of crab-grass (*Digitaria*) 2830.
- Bull, C. P. (Olson, P. J., C. P. Bull, and H. K. Hayes) 277.
- Burd, J. S. Peat as manure. 2940.
- Burger, O. F. Sexuality in *Cunninghamella*. 2096.
- Burgess, P. S. Soil biology in Hawaii. 849.
- Burgess, J. L., and C. H. Waldron. Weed control in North Carolina. 1860.
- Burkill, I. H. Cole trees at Singapore. \*1693.
- Burkholder, W. H. Rev. of Van der Lek, H. A. 72.—*Anthraco-nose-resistant bean*. 24.
- Burlison, W. L., and W. I. Brockson. Sweet clover (*Melilotus*) in Illinois. 463.
- Burlison, W. L., and R. W. Stark. Spring wheat in Illinois. 464.
- Burnham, S. H. *Hepaticae* of Lake George. 2469.—*Sedges* of Lake George. 2970.
- Burroughs, G. D. North Carolina sweet-potato storage. \*2584.
- Burt, E. A. *Thelephoraceae* of North America, *Aleutodiscus*. 348.—*Thelephoraceae* of North America, *Hymenochaete*. 349.
- Büsgen, M. *Botrytis* infection. 1627.
- Busolt, E. *Carbohydrates* of vegetables. 2842.
- Buswell, W. M. Spurred butterfly-pea. \*2243.
- Butler, E. J. *Tylenchus* injury to rice. 98.
- Butler, J. R. (Koch, G. P., and G. R. Butler) 175, 362, 1686.
- Butler, O. Storage of seed potatoes. \*168, 137.—Wounds and weight-loss in potatoes. 1861, \*2884.
- Butterwick, A. J. S. Killing trees by poison in British India. 521, \*1252.
- Büttner, G. (Neger, F. W., and G. Büttner) 1461.
- Byars, L. P. Wheat nematode in U. S. A. 390, \*391.
- Byrnes, E. F. Breeding *Cyclops*. 2097.
- C., A. H. Rev. of Bower. \*1844.
- Cabrera, T. *Enterolobium* for fuel bricks in Cuba. 522.
- Cabrera, Teodoro. Coal briquets. 2397.
- Cadoret, A. Grape-mildew control in France. 2585.
- Caldwell, J. S. (Magoon, C. A., and J. S. Caldwell) 443.
- Caldwell, O. W. Gary (Indiana) Public Schools, science teaching. 1905.
- Calkins, G. N. Conjugation and vitality. 982.
- Calciño, Mario. Best greens of the tropics. 2386.—Director's report, Cuban Exp. Sta. 2586.—Inorganic injections in plants. \*1209, 1060.—Legumes in Cuba, 872.—*Meibomia* for Cuba. 1352.—Mexican horticulture. 1059.—Peruvian pepper. 1058. Yam bean (*Pachyrhizus*). 874.
- Campbell, D. H. Mosses and ferns, 690.—Origin of Hawaiian flora. 1608.
- Campbell, J. A. Brown-rot control in New Zealand. 2587.
- Campbell, R. A. Rept. Director of Forestry (Canada), 1918. 2002.
- Candolle, see De Candolle.
- Canio, R. Pseudo-tuberculosis due to *Penicillium glaucum*. 2588.
- Cantrill, T. C., and B. Smith. Carboniferous plants of Winterbourne, Gloucestershire. 2504.
- Caporn, A. St. Clair. Paleae in *Avena nuda* crosses. (Rev. by Lehman) 2157.
- Capus, J. Mildews in France. 1628.—Nematode disease of pea in France. 2591.—Plant diseases in France during drought. 2589.—Vine mildew sprays in France. 2590.
- Carballo, E. *Ricinus* culture in Spain. 1353.
- Cardin, P. Rept. Cuban Dept. Entomol. and plant pathology, 1917–18. 2592.
- Cardot, J. Oriental *Rosaceae*. 141, 1288.
- Carey, A. F. (Oliver, F. W., and A. F. Carey) 1972.
- Carnot, P., and J. Dumont. Penetration of antiseptics. 392.
- Carpentier, A. Notes on coal basin of Loire. 2505.—Notes on carboniferous of Loire basin. 2506.—Paleobotany of France. 1609.—(Rev. of Soward) \*2507.
- Carpenter, C. W. Rept. Hawaii Div. Plant Pathology. 2593.
- Carpenter, F. A. Clouds and forest fires in California. 523.
- Carr, R. H. (Spitzer, G., R. H. Carr, and W. F. Epple) 1752.
- Carrier, L. Experiments with maize. \*164.
- Carroll, Franklin B. Chasmogamous and cleistogamous flowers. 2417.
- Carter, E. G. (Greaves, J. E., and E. G. Carter) 1803.
- Carter, Nellie. *Trachelomonas inconstans*. \*695.

- Casalis, Th. (Mestrezat, W., and Th. Casalis) 410.
- Castella, see de Castella.
- Castle, W. E. Albinism in cats. 236.—Color variation in cats. \*25.—Piebald rats and theory of genus. 235.
- Castro, R. de. Medicinal uses of plantain. 1716.
- Cavendish, F. H. Forest administration in Andamans, India. 2003.
- Chace, E. M. Elimination of frosted oranges. 2319.
- Chamberlain, C. J. *Carex* embryology, etc. \*26.—Fossil plants. \*1140.—Living cycads. 142.—Rev. of Heilborn, O. 38.
- Chamberlain, E. B. Herbarium methods. 3035.—Range of *Anacamptodon*. 2470.
- Chandler, B. A. Forest management in the Adirondacks. 1428.
- Chandler, W. H. Winter injury to fruit trees in New York state, 1917-18. \*2903.
- Chaney, A. W. Cranberry distribution and advertising. 78.
- Chapman, F. Petrified *Eucalyptus* in Victoria. 2508.
- Chapman, H. H. Forestry as a vocation. \*1906.
- Charles, Mrs. M. E. S. Germination of *Echinosystis*. 2244, \*2898.
- Charmeaux, F. Bagging grapes in France. 2320, \*2594.
- Chase, A. Confusion in nomenclature. 1808, \*524.
- Chase, W. W. Apple disease in Georgia. \*676, 748.
- Cheel, E., and J. B. Cleland. Timber-destroying fungi on New South Wales. 2595.
- Chenantais, J. E. *Pyrenomycetes* in France. 1125.—Study of *Pyrenomycetes*. 351.—Three *Discomycetes*. 350.
- Chenoweth, W. W. Home making of fruit products. 1095.
- Chesnut, V. K. (Power, F. B., and V. K. Chesnut) 1731, 1749.
- Chevalier, A. Forest products of Tonkin, French Indochina. \*2004.
- Childs, Leroy. Codling-moth control in Oregon. 2599, \*2321, 2322.—Spraying for apples in American Northwest. 2598.
- Chiffot, J. Ergot on Canadian wheat in France. 2596, 2597.
- Chiovenda, E. Generic names *Polystichum* and *Aspidium*. 2971.
- Chipplot, J. Secretory canals of *Gesneriaceae*. 2418.
- Christy, M. *Carduus* (*Cnicus*) *palustris*. \*143.
- Church, A. H. Androeium and gynoeium, etymology. 2419.—Oysters, etc., lifted by algae. 1951.
- Church, M. B. Development and structure of *Cooperia* bulb. 2420.
- Church, T. A. *Sphagnum* as a commercial product. 2791.
- Ciamician, G. Comparison of water and ammonia. 1253.
- Claassen, Edo. Adulteration of *asafoetida*. 1706.—Ohio mosses. 700.
- Claasen, P. W. Moth-larvae in cat-tail fruits. 1907.—*Typha* rhizome as food. 1354.
- Clapp, E. H. Forest research in U. S. A. and the war. 1429.—Potatoes in Colorado. 920, \*1161, \*1262.
- Clark, F. G. Appraisal of fire-damage to immature timber. 525.
- Clausen. Lime and potash requirements of legumes. (Rev. by Metge, G.) 1783.—Rev. of Metge, G. 1385, 1767.
- Clawson, A. B. (Marsh, C. D., A. B. Clawson, and H. Marsh) 10.
- Clayton, R. J. B. Rice in Malaysia. 903.
- Cleland, J. B. (Cheel, E., and J. B. Cleland) 2595.
- Clerc, see LeClerc.
- Clevenger, J. F. (Ewing, C. O., and J. F. Clevenger) 1702.
- Clevenger, J. F., and C. O. Ewing. Chamomile adulterant. 2811.
- Clifford, J. D. Teak forestry in British India. 526.
- Clinton, G. P. Infection of *Ribes* and *Pinus* with *Cronartium*. 393.—Potato diseases. 1162.—Potato wilt. \*916, \*1263.
- Clute, W. N. Age and protoplasm. 2098.—Composites and other flower clusters. 2250.—Defining double flowers. \*2249.—Hardy houseleeks. 2251.—Official drugs of U. S. A. 1676.—Opening of flowers. \*2245.—Plant colors. \*2246.—Plant structure. \*2247.—Potato wart disease. \*2600.—Prices of drug plants in U. S. A. 123.—Species conception. 144.—Treatment of cut-flowers. 2248.—Vinegar bees. 134.
- Clutterbuck, P. H. Forest administration in British India. 2005.



- Coates, C. E. Clarification of cane juice. 817.
- Cobb, Frieda, and H. H. Bartlett. Mendelian segregation in *Oenothera*. \*2099, 2100.
- Cockayne, A. H. Dactylis in New Zealand pastures. 1355.—Foxglove in New Zealand. 877.—Turnip rot. 2601.
- Cockayne, L. Grasslands in New Zealand. 904.—Presidential address, New Zealand Institute, Science, 1919. \*1908.
- Cockerell, T. D. A. Hybrid sunflowers. 2101.—Lycaste. 145.
- Cocx, M. M. A. *Valeriana officinalis*. 1677.
- Coe, H. S. Velvet bean (*Stizolobium*) mutants. 1471.—Velvet bean varieties. \*605.
- Cofman, Victor. Japanese chiretta. 2813.
- Coit, J. E., and R. W. Hodgson. June drop of navel oranges. \*394.
- Colani, M. Tertiary floras of Tonkin. (Rev. by Fritel) 2509.—Development of Combretaceae and Barringtoniaceae. 338.
- Cole, L. J., and F. J. Kelley. Inheritance in pigeons. \*237, 2102.
- Coleman, L. C. Spike disease of sandal. 2602.
- Collard, J. W. Peach brown-rot control in New Zealand. 2603.
- Collins, E. J. Sex segregation in Bryophyta. \*606, 2103.
- Collins, G. N. Ear structure in maize. 2421.—Fossil maize. \*239, \*238, 983.—Heredity in maize. 1472.—Self-fertilization in maize. 607.
- Collins, J. L. Chimeras in maize. 2104.
- Collins, S. H. Plant products and fertilizers. 433.
- Colon, E. D. Yellow-stripe disease of cane in Puerto Rico. 749.
- Colver, C. W. (Neidig, R. E., C. W. Colver, H. P. Fishburn, and C. L. von Ende) 446, 451.
- Combes, Raoul. Rev. of Appleman, C. O. 1212.—Physiology of glucosides in plants. 439.
- Compton, W. Forest economics. 2006.
- Conard, H. S. Preservation of wild plants. 3036.—Suggested new classification of plants. 1909.
- Condit, I. J. Avocado marketing. 2323.
- Condit, I. J., M. E. Jaffa, and F. W. Albro. Carob bean in California. 2398.
- Condit, I. J., and H. J. Stevens. Diseases. 1163.
- Conklin, E. G. Heredity and democracy. \*240, 984.—Rev. of Davenport, C. B. 91.
- Conklin, G. H. (Haynes, C. C.) French Hepaticae. 2473.
- Conn, H. J., and J. W. Bright. Ammonification of manure in soil. 850, \*352.
- Conner, A. B. (Karper, R. E., and A. B. Conner) 2151.
- Connors, C. H. Peach breeding. \*241, 608.
- Conradi, A. F., and H. W. Barre. Orchard spraying in South Carolina. \*79, \*99.
- Cook, O. F. Spacing of cotton plants. 1861, \*2954.—(Scofield, C. S., T. H. Kearney, C. J. Brand, O. F. Cook, and W. T. Swingle) 199.
- Cook, M. T. Economic botany. 491.
- Coombes, G. British medicinal plants. \*1678.
- Coons, G. H. Bean disease in Michigan. 2604.—Bordeaux mixture. \*2605, \*2324.—Celery disease. 1164.—Michigan plant diseases. 751.—Oat smut.—1167.—Pathological work in Michigan. 1165.—Plant disease notes. 2606, 2607.—Plant diseases in Michigan. \*1166.—Potato blight and weather in Michigan. 1168.—Soft-rot of hyacinth. 750.
- Cordley, A. B. "Sour sap" in Pacific Northwest, U. S. A. 2325, \*2608, \*2843.
- Cornthwaite, H. G. Panama rainfall. \*2007.
- Correns, C. Species in light of genetical investigations. (Rev. by Matouschek) 1495.—Death rates of the sexes of *Trinia*. 2105.—Germ-cells and numerical relations of sexes. \*27.
- Correvon, H. Alpine plants, Fasc. 9. 2972, \*2252, 2973, 2253.
- Cossette, J. R. Dusting in Canada. 2609.
- Cotte, J. Sycamore parasites at Nice, 1918. 2610.
- Cotton, A. D. Nectria on apple. \*100.—Onion smut in Britain. 2611.—Parsnip diseases. 395.
- Coulter, J. M. Rev. of Brown. \*2426.—Botanical opportunity. 1845.—Dicotyledon seedlings. \*1104.—Evolution of maize. \*985.—National Research Council, botany. 204.—Rev. of Arber. \*2423.—Rev. of Bailey and Thompson. \*2425.—Rev. of Holden and Bexon. \*2427.—Rev. of Ishikawa. \*2424.—Rev. of Rehffous. \*2422.

- Coulter, M. C. Chlorophyll inheritance. \*986.—Corn pollinator. \*611.—Hybrid vigor. \*988.—Maize pollination. 989.—Quantitative variation. \*987.—Rev. of East. \*613.—Rev. of Harper. 609.—Rev. of Jones. \*612.—Rev. of Transeau. 610.
- Coupon, H. Mounting microscopic preparations. 3037.
- Cowgill, H. B. Cross-pollination of sugar cane. \*614, 2106.—Sugar-cane inheritance. 2107, \*615.
- Cowles, H. C. Starved Rock State Park (Illinois) flora. 1952.
- Craig, W. T. (Love, H. H., and W. T. Craig) 2163.
- Crandall, C. S. Apple bud selection. \*28, 242.
- Cremata, M. Coccoloba in Cuba. 2974.—Cuban fences and hedges. 527, \*1430, 2254.—Popular medicinal plants of Cuba. 1694.
- Crevost, C., and C. Lemarie. Fiber plants of Indochina. 2008.
- Crevat, Jules. Austrian pine in France. 528.
- Cromwell, R. O. Cedar (apple) rust (*Gymnosporangium*) in Iowa. 2612.—(Wolf, F. A., and R. O. Cromwell) 1596, 1669.
- Cross, W. E. Stripping sugar-cane in Argentina. 465.
- Crossley, T. L. Melting point of rosin. 1717.
- Crow, J. W. Winter injury and soil fertility. \*1528.
- Crozier, R. H. Eucalyptus culture in South Africa. 1431.—Properties and uses of Eucalyptus. 1432.
- Crozier, W. J. Intracellular acidity in Valonia. 1214.
- Cruess, W. V. (Bioletti, F. T., and W. V. Cruess). 2396.—Prunes in California. 1098.
- Cruz, J. Sugar-beet fertilizers in Spain. 1784, \*1356.
- Cunaeus, E. H. J. Medicinal-plant garden at Delft. 1679.
- Curran, R. E. (Blackwell, C. P., and R. E. Curran) 2089.
- Curtis, K. M. Potato-wart *Synchytrium*. 1126.
- Curtis, R. E. (Waksman, S. A., and R. E. Curtis) 382.
- Curtis, R. H. Heterology of Wisley, England. 2326.
- Curtiss, C. F. Forest parks and the community, Iowa. 3038.
- Cushman, A. S. Medicinal plant culture in U. S. A. 1061, \*1675.
- Cutler, G. H. Dwarf wheat. \*29, 151.
- d'Aboville, P. Tree measurement. 529.
- Dahlgren, K. V. O. Rev. of Rasmuson. 1027.—Genetics of *Capsella*. 616, 1473.—Plant coloration and crossing. \*30.
- Dana, S. T. Floods, erosion, and forest. 159, 530.—Public control of private forests in Norway. 2009.
- Danforth, C. H. Brachydactyly in fowls. 31.—Selection of germ-cells. \*617, 990.
- Daniel, L. Market gardening experiments in France. 80.—Oak disease cause and control. 2613.
- Danielson, Uno. Productive capacity of Swedish forest. 2010.
- Darbishire, F. V. Sugar-beet seed in U. S. A. 2108, \*243.
- Darnell-Smith, G. P. Cactus disease in Australia. 2615.—Peach brown-rot control in Australia. 2614.
- Darrow, G. M. Ribes culture in U. S. A. \*677.—Strawberry culture in eastern U. S. A. \*314.—Strawberry varieties in U. S. A. \*315.—(Gould, H. P., and G. M. Darrow) 327.
- Dash, J. S. Sugar industry in Guadeloupe. 466.—Sugar-cane in Guadeloupe. 2616.
- Datt, S. (Joshi, S. Datt, and others) 2032.
- Davenport, C. B. Heredity and environment. 991.—Heredity of stature in man. 244.—Report Dir. Dept. Exp. Evolution, etc., 1918. 32.—Third and fourth generation. 245.—(Davenport, C. B., assisted by Mary T. Scudder). Heredity of naval officers. 246.—(Preisner, S. A., and C. B. Davenport) 281.
- Davey, H. W. Fruit tree diseases. 1629.
- Davidson, S. C. Coal from peat. 3039.
- Davies, O. B. (Ewart, A. J., and O. B. Davies) 2960.
- Davis, B. M. Courses in botany. 1910.—Crosses of *Oenothera* hybrids. (Rev. by Goedewaagen) 1481.—Segregation of *Oenothera* crosses. 2109.
- Davis, D. J. Iodine as a germicide. 1630.—Potassium iodide and sporotrichosis. \*2912.
- Davis, L., and H. M. Merker. Purification of pepsin. 1229.
- Davis, R. L. Plant breeder's envelope. \*247, 992.
- Davis, W. E., Jr. Alpine plants. 1062.



- Davis, W. H. Aecial stage of *Uromyces* on *Trifolium hybridum*. 353.—Alsike clover rust. \*101.
- Dawson, A. I. Bacterial variations and culture media. 1237.
- Dawson, Jean. (Hodge, C. F., and J. Dawson) 1926.
- Day, A. A. (Kendall, A. I., A. A. Day, A. W. Walker, and M. Ryan) 2489.
- Deam, C. C. Trees of Indiana. 942.
- Dearing, C. Muscadine grape paste. \*316.
- Dearnness, J., and H. D. House. Fungi in New York. 1127.
- de Barnola, P. J. Lycopodiales of Iberian Peninsula. \*1817.
- DeCandolle, Cas. Piperaceae of Papuasias. 2975.
- de Castello, F. Copper fungicides. 752.—Copper fungicides for vine disease. 1632.—Downy mildew (*Plasmopara*) in Australia. 1633.—Potash fertilizer in Australia. 1797.—Vine anthracnose in Australia. 1634.—Vineyard spraying. 1631.
- De Graaf, W. C. Medicinal plants in Holland. 2795.
- Degrulley, L. Vine mildew and manuring in France. 2617.
- Dehaut, E. G. Color inheritance in *Lacerta*. 1474, \*618.—Hereditiy in swine. 1475, \*619.
- De Jong, A. W. K. Tapping Hevea in Dutch East Indies. 2013.
- De la Hamelinaye, H. Staddle notebooks. 2012.
- De Lange, see Ten Houte De Lange.
- De La Vaulx, R. Gynandromorphes daphnids. 2110.
- Delphin, L. Rev. of Downing. \*620.
- Delsman, H. C. Egg-cleavage in *Volvox*. 1578.
- Demorlaine, J. Forests in the war. 1433.
- Den Doop, J. E. A. *Ranunculus acris* with reflexed sepals. 2428.
- DeOng, E. R. Effect of sterilization on seeds. \*1357, \*2327, 2913.
- Derschau, M. von. Dispermic fertilization in *Nigella*. 1476.
- DeThouars, G. O. A. Cherry-laurel water from different varieties. 1718.
- Detmers, Freda. Two new *Acer rubrum* varieties. 1825.
- De Toni, G. B. Fasciation in *Chrysanthemum*. 1568.
- Detwiler, S. B. White pine blister-rust control. 7, 396.
- De Brun, H. Coppice in France. 2011.
- de Vries, H. Age of endemic species. 1953.—Half-mutants and mass mutations. 2114.—Hereditary causes of early death. 1477.—Hybridization and apogamy. 2113.—Hybrids of *Oenothera*. 2111.—*Oenothera Lamarckiana* mut. simplex. 2112.—Plant migration. \*1478.—Endemic plants of Ceylon and mutating *Oenotheras*.
- de Vries, O. Influence of chemicals on qualities of rubber. 2014.—Tapping Hevea in Dutch East Indies. 2015, 2016.
- Dey, P. K. Physiology of parasitism, V. 2618, \*2885.
- D'Herelle, E. Isolating Bacteriophagum. 397.
- Dibble, W. Forage crops in New Zealand. 894.—Potato planting in New Zealand. 1358.
- Dickson, J. G., and A. G. Johnson. Wheat stem-rust in Wisconsin. 2619.
- Diehl, H. S. Bacterial enzymes. 818.
- Dienert, F., and A. Guillerd. Yeast water and *Bacillus coli*. 127.
- Dietel, P. Heteroecious rusts. 710.
- Digby, L. Mitosis in *Osmunda*. 1933.
- Dille, A. Lessons on potato. 492.
- Dissel, see Van Dissel.
- Dixon, H. H. Mahogany. 2017, \*2429.
- Dixon, H. N. *Miscellanea bryologica*, VI. 701.
- Doblas, J. H. Seed selection in Spain. 1359.
- Dodge, B. O. Amer. mycological literature. \*738, \*739, \*2481, \*2528, \*2536.
- Dodge, C. K. Flora of Marquette Co., Michigan, 1280, \*1282.
- Doe, Fr. *Oidium* and disease of forest trees in France. 2, \*398.
- Doidge, E. M. Bean blight in South Africa. 2622.—Characters of superficial fungi in South Africa. 2483.—Peach leaf-curl (*Taphrina*) in South Africa. 2623.—Plant diseases in South Africa. 2620.—South African Perisporiaceae, II. 2484.—Walnut bacteriosis in South Africa. 2621.—Walnut blight in South Africa. 2624.
- Domingo, M. G. Orange fertilizers in Spain. \*1785, 2328.
- Doncaster, L. Mutation in bacteria. \*621, \*823.—Chromosomes, heredity and sex. (Rev. by Seiler) 2193.—(Harrison, J. W. H., and L. Doncaster) 2196.
- Donald, J. Rock garden. \*2255.
- Doop, see Den Doop.

- Dorsey, M. J. Adaptation and hardiness. 1954.
- Dorsey, M. J. Dropping of flowers in potato. \*622.—Weather influences on plum. 1479, 1529.
- Dosch, H. E. French walnuts in Oregon. 2329.
- Dowell, C. T. Cyanogenesis in *Andropogon*. 135.
- Downing, E. R. Third and fourth generation. 248.—Heredity (Rev. by Delphin) 620.—Rev. of Davenport, C. B.
- Dox, A. W., and G. P. Plaisance. Vanillin determination. 1719.
- Doyle, H. W. Potato culture in Kansas. 1863.
- Dracopoulos, J. N. Citrus gummosis. (Rev. by Fawcett) 2636.
- Drake, J. A., and J. C. Rundles. Meliotos in American corn belt. \*183.
- Draubert. Wine disease in Spain. 2878.
- Dressel, K. Rev. of Jaffe, H. 42.
- Drieberg, C. Freak pawpaw (*Carica*). \*623.
- Drummond, B. Date culture in United States. \*317.
- Drushel, J. A. Study of pines. \*205.
- Dudgeon, G. C. Quality of Egyptian cotton. 2115.
- Duerden, J. E. Genetics of the ostrich. 2117.—Ostrich breeding in South Africa. \*249, 2116.—Ostrich crossing. \*624, 2118.
- Dufour, Leon. Fruiting of *Plicaria*. 354.
- Dufrenoy, J. Ecology of parasitic fungi. \*355.—Specific reactions. 822.
- Duggar, B. M., J. W. Severy, and H. Schmit. Physiology of fungi. (Rev. by Hasselbring) 1218.
- Dujardin, F. Horticulture in the war zone. 1530.—Vegetable-growing in England. 1531.
- Dumont, J. (Carnot, P., and J. Dumont) 392.
- Dunbar, J. Rev. of Sargent. 2976.
- Dungan, G. H., and J. Pieper. Potato diseases, etc., in Illinois. 753.
- du Nuoy, see Lecomte du Nuoy.
- Durand, E. J. *Encalypta* in New York State. 2471.
- Durham, H. E. Lorette system of pruning. 2330.
- Du Rietz, G. E., Th. C. E. Fries, and T. A. Tengwall. Terminology for plant geography. 1955.
- Dutcher, R. A. Vitamine studies, IV. 1919. 2866.
- Dutton, W. C. Apple scab in Michigan. 1169.
- Duysen, F. Intumescences in wood. \*2625.
- Dybowski, M. J. Sweet sorghums. 201.
- Earle, F. S. Mosaic disease of cane in Puerto Rico. 754.
- Easlea, W. Mildew-resistant roses. 2119, 2256, \*2626.
- East, E. M. Pollen tube growth in self-sterile plants. (Rev. by Coulter) 613.—Studies on self-sterility. 2120, 2121, 2122.
- Eaton, B. J. Grass for paper. 905.
- Ebaugh, W. C. Potash production in U. S. A. 1269.
- Edgerton, C. W. Mosaic disease of sugar cane in Louisiana. 755.
- Edmonds, M. E., and P. Sargeant. Plant variability. \*625, 993.
- Edwards, C. L. Grafting wax removed by bees. 319.—Pecan culture in U. S. A. 321.—Seedling pecans in Texas. 318.—Thoroughbred pecans. 322.—Walnut culture in Texas. 320.
- Ehrenberg, P., and O. Nolte. Absorbed manganese and plant composition. (Rev. by Volhard) 2832.
- Eldevik, Sören. Forestry profit in Sweden. 943.
- Elliott, J. A. Iresine smut in Indiana. 712, \*756.
- Ellis, J. H. Silage crops other than maize. 1864.
- Emeis, W. Hair-ice on decayed wood. 1758.
- Emig, W. H. Travertine formation in Oklahoma. 1956.
- Emoto, Y. Cross and self fertilization in plants. \*250.
- Ende, see Von Ende.
- Enfer, V. Apple culture in France. 1533.—Pear and apple culture in France. 1532.—Pear canker in France. 1635.
- Engler, A. Tropisms and radial tree growth. 691, 826.
- Enriques, P. Rev. of Maiocco on Mendel's law. 626.
- Ensign, M. R. Stain for vascular tissue. 2431.—Sweet potato mosaic. 2627.—Vegetation and senescence in Citrus. \*2430.
- Eppe, W. F. (Spitzer, R. H., Carr, and W. F. Eppe) 1752.
- Erdmann, R. R. Endomixis, etc., in *Paramecium*. 2123.
- Eriksson, J. Life-history of *Peronospora spinaciae*. 356, \*102.

- Eriksson, Jacob. Russian gymnosporangia. 2628.
- Ernst, A. Hybridization and apogamy. 2113.—Rev. of Karsten, G. 2152.
- Erwin, A. T. Potato tip-burn. 757, \*832.
- Esam, Gordon. Orchard spraying in New Zealand. 2629.—Plums in New Zealand. 1063.
- Esmarch, F. Metabolism in potato leaf-roll. 2630, \*2844.
- Esprit, see L'Esprit.
- Essig, E. O. (Smith, R. E., E. O. Essig, and G. P. Gray) 116.—Lepidium and Oryzopsis in California. 887, \*1128, 1170.
- Etter. Snow-damage to forests in Switzerland. 2018.
- Eulefield. Resin from pine in Germany. 531.
- Eustace, H. J., and R. H. Pettit. Fruit spraying in Michigan. 2332, 2632.—Michigan horticultural notes. 2331, \*2631.
- Evans, A. W. Hepatics of Virgin Islands. 702.—Lejeuneae from Florida. 1583.—New Riccia from Peru. 1117.—North American hepaticae, VIII. 2468.—Taxonomy of Dumortiera. 703.
- Evans, see also Pole Evans.
- Ewe, G. E. Emetine hydrochloride. 427.
- Ewart, A. J., and Olive B. Davies. Flora of Northern Territory. (Anon. rev.) 2960.
- Ewart, A. J. Fiber plants of Victoria. 91.
- Ewing, C. O. (Alsberg, C. L., A. Viehoveer, and C. O. Ewing) 1674.—(Clevinger, J. F., and C. O. Ewing) 2811.
- Ewing, C. O., and J. F. Clevenger. Horehound adulteration. 1702.
- Ewing, C. O., and E. E. Stanford. Conium and Aethusa. 836.
- Eyre, J. V., E. S. Salmon, and L. K. Wormald. Wash for powdery mildew. 2633.
- F., J. Variability in plants. \*583, \*589, 974, 2074.
- F., P. Improving French forest roads. 512.
- Fairbridge, D. Economic plants of South Africa. \*1848.—South African herbs. \*1680.
- Fairchild, D. Amer. Genetic Association. \*921, 994.—Food tests. 1064.—Immigration and heredity. 995.
- Falck, K. Principles of genetics. 627.
- Falk, G. K., G. McGuire, and E. Blount. Enzyme action, XVII. 2879.
- Fallada, O. Treatment of seed with sulphuric acid. (Rev. by Kirchner) 2673. (Rev. by Richter) 1398.
- Farneti, R. (Briosi, G., and R. Farneti) 2579.
- Farr, B. H. Peony and its people. \*2257.
- Farr, C. H. Rain-forest ferns. \*1818.
- Farrell, J. Apple diseases in Victoria. 2634.—Apple in Victoria. \*678, 758.—Gnarl of apple trees in Australia. 1636.
- Farrington, E. I. Horticulture in America. 1065.
- Farwell, O. A. Cramp bark, Acer. \*1105, 1709.
- Fauchere, A. Tropical agriculture. (Rev. by Main) 1379.
- Faulkner, O. T. Irrigation in India. 1278.
- Faull, J. H. Fomes on pineapple. 2802.
- Faure, Ch. Hermaphroditism in poultry. \*628, 1480.
- Fawcett, G. L. Rev. of Dracopoulos. \*2636.
- Fawcett, H. S. Citrus blast. 2637.—Psorosis of orange in California. 2635.
- Fedele, V. (Rev. of Taylor, W. H.) 576.
- Federal Horticultural Board, U. S. Dept. Agric. U. S. Amer. Plant quarantine notices. \*4, \*5, \*6, \*181, \*182, \*323, \*324, \*325, 399, 400, 401, 759, 2638.
- Federly, H. Chromosome studies on hybrids. (Rev. by Seiler) 2194.
- Fellers, C. R. Longevity of *B. radicola* on legume seeds. 2934.
- Felt, E. P. Insect galls. \*760.
- Ferdinandson, C. S., Mrs. Rostrup, and F. K. Rarn. Crop disease. 103.
- Ferguson, W. C. Autumn flowers of 1918 on Long Island. 1957.
- Fernow, B. E. White-pine blister-rust. \*944, 1171.—Rev. of Zon R. 2019.—Rev. of W. Gill. \*532.
- Ferry, E. L. (Osborn, T. B., A. J. Wakeman, and E. L. Ferry) 2872.
- Fielder, C. R. Trees and shrubs for autumn and winter. \*2258.
- Findlay, D. F. Iodine factory in Siberia. 1720.
- Findlay, W. M. Red clover (*Trifolium pratense*) in Scotland. 1360.—Size of seed. 1361.
- Finks, A. J. (Johns, C. O., and A. J. Finks) 2868.
- Fiori, Adr. Additions to flora of Bosco Cansiglio, etc. \*2977.
- Fishburn, H. P. (Neidig, R. E., C. W. Colver, H. P. Fishburn, and C. L. von Ende) 446, 451.
- Fischer, C. Sitka spruce in Germany. 533.



- Fischer, C. E. C. Forest grazing in India. 211.—Spike disease of sandal. 104.
- Fischer, E. New *Picea* in Bern Bot. Gard. 16.—Rusts. \*762.—Rusts of Swiss conifers. 713, \*761.—Rev. of Klebahn. \*2124.
- Fisher, D. F. Apple powdery mildew. 2639.—Apple storage diseases. 2640.
- Fisher, D. F., and E. J. Newcomb. Pear diseases, etc., in humid Pacific Northwest, U. S. A. \*2641.
- Fisher, M. L. Eroded lands of Indiana. 467, \*534, 851.
- Fitzpatrick, H. M. New *Pyrenomyces*, *Rostronitschka*. 2485.
- Fleet, see Van Fleet.
- Fletcher, G. Red cross work in Ireland (*Sphagnum*) 1671, \*1584.
- Flood, M. S. (Henry, A., and M. G. Flood) 2140.
- Flury, P. H. Natural rod-grafting in Swiss forests. 535, \*1106.—Soil improvement in forests. 2020, 2021.
- Foex, Et. Ascospores of *Leptosphaeria*. \*2643.—Chestnut gall and rose canker. 2642.—Foot-rot of wheat. 2644, 2645.
- Folin, O., and E. C. Peck. Copper phosphate for sugar titration. 2845.
- Folsom, D. (Schultz, D. S., D. Folsom, F. M. Hildebrandt, and L. A. Hawkins) 2755.
- Forbes, R. D. Forest policy for Louisiana. 2022.
- Forsling, C. L. *Yucca* as feed. 180.
- Fosse, R. Urea synthesis and plant metabolism. 1745.
- Foster, J. H. Rev. of Rankin, W. H. \*536, \*1172.
- Fracker, S. B. (Ball, E. D., and S. B. Fracker) 2560, 2561.
- Fragoso, R. G. Microscopy of the fungi. 1590.—Pea anthracnosis in Spain. 1637, \*1591.
- Francis, W. Orchard pests in Australia. 1173.
- Frank, Arthur. Spraying for apple anthracnose. 2646.
- Fraser, W. P. Heteroecious rusts. 714.
- Fred, E. B. Plants in sterilized soils. 1254.—Seed germination and organic substances. \*138.
- Fred, E. B., and A. R. C. Haas. Root etching and bacteria. 1215.—(Haas, A. R. C., and E. B. Fred) 2886, 2936.
- Free, M. Low temperature effect in greenhouse plants. 679.
- Freeman, G. F. Hard and soft wheat. \*630, 2125.—Heredity of wheat characters. 629.
- French, H. B. Drug market, 1918. 2799.
- Frets, G. P. Inheritance of head form. (Rev. by Tammes) 1520. Rev. of Schallmayer. \*1481.—Heredity of head-form in man. 251.
- Freud, Sigmund. Theory of sex. \*252, 996.
- Fries, Th. C. R. (Du Rietz, G. E. Fries, and T. A. Tengwall) 1955.
- Fritol, P. H. Rev. of Colani. \*2509.
- Frith, W. E. Forest yield. 945.
- Frombling, C. Lower plants as soil indicators for forestry. 1434.
- Fromme, F. D., and S. A. Wingard. Bean-rust control. \*876, 1174.—Nematode (*Tylenchus*) on wheat in Virginia. 2647.
- Fryer, J. R. Effect of frost on oats. 1362.—Germination of oats exposed to varying degrees of frost, etc. \*2904.
- Fujiguro, Yosaburo. Fungi on cultivated plants in Formosa. 2648.
- Fulton, H. R. (Winston, G. R., and H. R. Fulton) 420, 2786, 2378.
- Funk, R. S. (Tanner, F. W., and R. S. Funk) 2769.
- Gager, C. S. Amos bequest to Brooklyn Botanic Garden. 715.—Biology in New York City high schools. 1911.—Botanic garden in Brooklyn. 494.—Causes of evolution. \*997.—Rept. Brooklyn Bot. Gard., 1917, 493.—Rept. Brooklyn Bot. Gard., 1918. 495.—Science in peace and war. \*496.—(Bruckman, L., and C. S. Gager) 1904.
- Gagnepain, F. Cucurbitacees of China. 1290.—Cucurbitacees of eastern Asia. 1291.
- Gaines, E. F. Smut resistance of Washington wheats. 763.—Two varieties of winter wheat. 1865, \*2649.
- Gainey, P. L. Formation of carbon-dioxide, etc., in soil. 2935.—Paraffin, and accumulation of ammonia and nitrates in soil. (Anon. rev.) 2931.
- Gale, H. V. Grafting the grape. 81.
- Gallastegui, C. A. (Jones, D. F., and C. A. Gallastegui) 2144.
- Galloway, B. T. Florida crown-galls. 2650.
- Gamble, J. S. Flora of Madras. 146.—New plants of South India. 147.
- Garber, R. J. (Arny, A. C., and R. J. Garber) 165, 2079.

- Garber, R. J., and P. J. Olsen. Lodging of cereals. \*692, 408.
- Garbowski, L. Parasitic fungi in *Podolia*. \*105.
- Gardner, M. W. Fungus and bacterial plant diseases in Michigan. 764.
- Gardner, N. L. New Pacific Coast marine algae, IV. 2459.
- Garman, H., and C. L. Hathaway. Formalin treatment of wheat. 106.
- Garrett, A. O. Smuts and rusts of Utah, III. 2486.
- Garwood, E. J., and Edith Goodyear. Algae in English limestones. 735.
- Gaskill, A. Control of growing forests. 1435.
- Gathercoal, E. N. Pharmacognosy of couch grass and Bermuda grass. 1700.
- Gatin, C.-L. Artificial ripening of fruits. 1746, \*1534.
- Gauman, E. Specialization of *Peronospora calotheca*. \*716, 765, 766.—*Saprolegniaceae* of Lapland. 1129.—Specialization of *Peronospora* on *Scrophulariaceae*. 716, 717, \*717.
- Gavilan, Juan. Chilean nitrate in Spain. 1798, \*1364.—Cotton in Spain. 1363.
- Gee, N. G. Foochow (China) flora and fauna. 2460.
- Gentner, G. Clover and alfalfa disease (*Macrosporium*) in Bavaria. \*767, 2651.
- Georgi, J. Surface-measuring instruments in microscopic technique. \*3040.
- Gerardin, E. *Ladanium*. 1721.—*Ranunculus* in France. 1292.
- Gericke, W. F. (Lipman, C. B., and W. F. Gericke) 1765.
- Gertz, O. Macro-chemical tests of leaves. (Rev. by Matouschek) 2690.—Abnormalities in leaves. \*1107.—Anomalies in *Lunularia*. 1585.—*Callus*, etc., in insect-mined leaves. 1243.—Crystallizing leaf pigments. 1216.—Rhizoid anomalies in *Lunularia*. 1118, \*1255.—Variegation in *Mercurialis perennis*. 2126, \*2432.—Christopher Rostii Herbarium. (Rev. by Norstedt) 3010.
- Gessner, E. R. Sugar cane culture in South Africa. \*1866.
- Ghosh, M. Hydrocyanic acid in *Andropogon*. 128.
- Gilg, Ernst. *Flacourtiaceae* of New Guinea. 2978.
- Gilg, E., and R. Schlechter. *Monimiaceae* from German New Guinea. 2979.
- Gill, W. Forest administration in South Australia, 1917-1918. (Rev. by Fernow) 532.
- Ginarto, B. M. Pineapples in Cuba. 2333, 2334.
- Giningham, C. T. (Barker, B. T. P., and C. T. Giningham) 96.
- Gladwin, F. E. Grape fertilizers. \*326, \*852.
- Gleason, H. A. Michigan plant associations. 1958.
- Gloess, P. Utilization of marine plants. 1579.
- Glover, H. M. Blue pine and deodar in British India. 538.
- Godfery, M. J. *Epipactis media*. 2980.—*Epipactis viridiflora*. 148.
- Goedewaagen, M. A. J. (Lotsy, J. P., H. N. Kooiman, and M. A. J. Goedewaagen) 52.—Rev. of Davis, B. M. \*1482.
- Gokhale, V. G. Saline irrigation in Kan-kan, India. 2927.
- González, F. R. Rusts in Spain. \*2652.
- González, P. New varieties of sugar-cane. 2127.
- Goodspeed, T. H. Germination of tobacco seed. 111, 2908.
- Goodspeed, T. H., and P. Davidson. Pollination of *Nicotiana*. \*631, 998.
- Gordon, G. S. Flax tests in Victoria. 469.
- Goris, A. Cultivation of medicinal plants. (Rev. by Guerin) 1681.
- Gough, G. C. *Synchytrium* on potato. 768.
- Gould, H. P. Pig culture in southern United States. \*328.
- Gould, H. P., and G. M. Darrow. Fruit growing for home use in United States. \*327.
- Gourlay, W. B., and G. M. Vevers. *Vaccinium* hybrid. 2128.
- Gowen, J. W. Biometry of crossing-over. 2129.—Heredity in cattle. 999.—Inheritance of color and horn characters. \*632.
- Graaf, see De Graaf.
- Grainger, M. A. Forest fire protection in British Columbia. 539.
- Grande, L. Corrections to *Index Kewensis*. \*1294.—*Flora of Italy*. 1293.
- Grant, J. Squirrels and forestry in Scotland. 846.
- Grant, M. Heredity and democracy. 1000.
- Grantham, G. N. (McCool, M. M., G. N. Grantham, and C. E. Millar) 1787.
- Graves, A. H. Tree diseases in New York City. 769.

- Graves, H. S. Farm woodlands. 2023.—National forest policy for U. S. A. 1436.—Proposed forest legislation for U. S. A. 1437.
- Gray, G. P. (Smith, R. E., E. O. Essig, and G. P. Gray) 116.—Chemical weed control. \*828, 470.
- Gray, J., and G. J. Peirce. Light and stomatal movements and transpiration in cereals. 436, \*1959.
- Great Britain. Posts of basket willows. 2653.
- Greaves, J. E., and E. G. Carter. Soil amendments. 1803.
- Green, E. E. Mutation in Coccidae. 2130.
- Green, H. H., and N. H. Kestell. Bacteria and arsenic. 2914.
- Greissenegger, I. K. Manganese sulphite as fertilizer for beets. (Rev. by Richter) 1739.
- Greyerz, see Von Greyerz.
- Grier, N. M. Teaching botany. 1912.
- Griffin, A. A. Forests, and melting of snow in Cascade range. (Rev. by Boerker) 939.
- Griffiths, D. New *Opuntia* species. 1826.
- Griggs, R. F. *Asclepiadora viridis* in Ohio. 1960.—Katmai (Alaska) eruption and effect on vegetation. 1961.—Revegetation of Katmai valley, Alaska. 1962.
- Grosser, W. Breslau Exp. Sta. Report, 1917-18. \*2654.
- Grout, A. J. Moss notes. 2472.
- Grove, O. Bacillus of ropy cider. 455, \*357.—Fruit-blossom bacillus. 2655.
- Grove, W. B. Mycological notes, IV. 2487.
- Groves, J. *Lynchnothamnus*. 696.—*TolyPELLA* in Isle of Wight. 1580.
- Gruber, C. L. Fragrant Pennsylvania wild flowers. 1963.
- Gruenberg, B. C. Elementary biology. (Anon. rev.) 1901.—Elementary biology. \*1913.
- Guadagno, M. Flora of Sorrento Peninsula. 1295.
- Guerin, P. Anther and pollen development in Labiatae. 339.—Rev. of Goris, A., and Demilly, J. \*1681.—*Urera humblotii*, etc. \*2433.
- Guillaumin, A. New-Caledonian paleobotanical notes. 2510.
- Guillerd, A. (Dienert, F., and A. Guillerd) 127.
- Guinier, Ph. *Trametes pini* on *Pinus pinaster* in France. 2656.
- Gunderson, A. J. The pruning of winter-injured peach trees. 680.
- Guss, R. W. Nature-study in Cincinnati. 497, 498.
- Gussow, H. T. Canadian tuckahoe. 718.
- Gutherz, S. Animal germ cells. 33.
- Guyot, Ch. Forestry law in France. 1.—Reorganization of French rural police. 537.
- Guzmanes, A. Fertilizers for pepper. 2387, 1786.—Nettles (*Boehmeria nivea*) in Spain. 1365.
- Haagedoorn, A. L., and A. C. Rat species. (Rev. by Sirks) 1509.
- Haas, A. R. C. Hydrogen-ion concentration. 2846.
- Haas, A. R. C., and E. B. Fred. Soy bean germination and nodule bacteria. 2936, \*2886.
- Haase-Bessell, G. Chromosome studies on hybrids. (Rev. by Seiler) 2195.
- Hackh, I. W. D. Bio-elements. 1217.
- Hadley, O. M. Pecan culture in U. S. A. 329.
- Hadley, P. Egg weight as production criterion for fowls. 2131.
- Haecker, V. Analysis of characters in genetics. (Rev. by Renner) 2184.—Rev. of Kuiper, K. 45.—Rev. of Trubenbach P. \*1483.
- Hagem, O. American trees in Norway. 541.—Exotic trees in Norway. 540.
- Haines, F. M. New auxanometer. 2916.
- Hall, P. Heredity and democracy. 1002.
- Hall, P. F. Immigration and eugenics. \*34, 1001.
- Hall, W. L. National forests in the southern Appalachians. 1438.
- Hamelinaye, see De la Hamelinaye.
- Hamilton, H. C. Drug assaying. 1683.—Drying of *Digitalis* leaves. \*1682.
- Harland, S. C. Eriophyes and cotton leaf blister. 36.—Inheritance in the cowpea. 2132, \*254, 1003.—Pear cuttings in U. S. A. \*253.—Sea-island cotton. 35.—Tomato breeding in St. Vincent. 633.
- Harper, R. A. Evolution of cell types in *Pediastrum*. \*255.—Structure of protoplasm. \*1484, \*1738, 1934, 2133.—Inheritance in *Pediastrum*. (Rev. by Coulter) 609.
- Harper, R. M. Forests of Delaware peninsula. 2024.
- Harreveld, see Van Harreveld.



- Harris, J. A., and F. G. Benedict. Human metabolism. 2134.
- Harris, W. Sisal and henequen in Jamaica. 1366.
- Harrison, J. B. Seedling sugar canes. \*634, 2135.
- Harrison, J. W. H. Chromosomes in gametogenesis in moth hybrids. (Rev. by Seiler) 2196.
- Harshberger, J. W. Fell-fields of eastern North America. 1964.
- Hart, E. B., and H. Steenbeck. Food efficiency of protein mixtures. 2867.
- Hartjens, J. C. Rubber content of Hevea latex. 2025.
- Hartmann, M. Inheritance in haploid organisms. 1004.
- Hartog, M. Artificial parthenogenesis and germination. 2136.
- Hartwell, B. L., and F. R. Pember. Soil acidity and soluble aluminum salts. \*139.
- Hartwell, B. L., F. R. Pember, and L. P. Howard. Lime requirements of soil. 2922.
- Haslund, Ove. Forest taxes in Sweden. \*542.—Mapping forest stands. 948.
- Hasselbring, H. Rev. of Murphy, P. A. \*1130.—Rev. of Duggar, B. M., J. W. Severy, and H. Schmitz. \*1218.—Rev. of Appleman, C. O. 1211.
- Hasselman, H. Distribution of forest trees. (Rev. by Nordstedt) 2044.
- Hastings, G. T. Abnormal Populus flowers. \*256.
- Hatfield, T. D. Endurance of conifers in Massachusetts. 2259.
- Hathaway, C. L. (Garman, H., and C. L. Hathaway) 106.
- Haughton, S. Baobab (*Adansonia*) in Ceylon. 543.
- Hauman, L. Argentine gymnosperms, etc. \*697.
- Hausman, E. H. Milkweed. 1914.
- Hauteferuilla, L. Sisal in Africa. 1367.
- Haviland, M. D., and F. Pitt. Snail selection by song-thrush (*Turdus*). 2137.
- Hawes, A. F. Wood fuel in U. S. A. 544.
- Hawk, P. B., H. R. Fishback, and O. Bergheim. Yeast as food. \*719, 806.
- Hawk, P. B., C. A. Smith, and R. C. Holder. Yeast as food. \*720, 807.
- Hawkins, L. A. (Schultz, E. S., D. Folsom, F. M. Hildebrandt, and L. A. Hawkins) 2755.
- Hawley, R. C. Measuring cord-wood in U. S. A. 1439.
- Hayata, B. Archangiopteris and Protomarattia. 1283.—Flora of Formosa, VIII. 18C9.—Japanese *Salvia* and *Chelonopsis*. 1296.—Protomarratia and archangiopteris. 1819.
- Hayes, H. K. (Olson, P. J., C. P. Bull, and H. K. Hayes) 277.—(Stakman, E. C., H. K. Hayes, O. S. Aamedt, and J. G. Leach) 2200.
- Hayes, H. K., and E. C. Stakman. Rust resistance in *Phleum*. \*163.—Rust resistance in timothy. \*37.—Rust in timothy. 107.—Rust resistance of timothy in Minnesota. 2138.
- Haynes, C. C. French *Hepaticae* collected by Major Conklin. 2473.
- Headen, W. P. Vitality of alfalfa seed. 1866.
- Headlee, T. J. Insects injurious to apple in northeastern U. S. A. 330.
- Hecke, G. H., J. E. Rickards, E. E. Kaufman, and R. G. Risser. California crop distribution. \*886, \*1006.
- Heckel, J. E. Oils for paints. 428.
- Hedlund, T. U. Taxonomy of *Ribes rubrum*. 1827.
- Hedrick, U. P. Winter injury to fruits in Massachusetts. 331.
- Heede, see Van den Heede.
- Hees. Bomb injury to pine forests at Trèves Trier. 545.
- Hegner, R. W. Heredity, etc., in *Arcella*. \*257, 2139.
- Heidema, J. Weed control. (Rev. by Ritze) 1399.
- Heilberg, G. F. Hazel hoops. 949.
- Heilborn, Otto. Embryology, etc. 38.
- Heinrich, M. Musty grain. (Rev. by Volhard) 1412.
- Heinreicher, E. Witches' brooms on juniper caused by *Arcanthobium*. 2658.
- Heinz, A. M. (Morgan, A. F., and A. M. Heinz) 130.
- Helbling, C. Timber and land valuation in Switzerland. 17.
- Hemmi, F. Carbohydrates in Japanese tubers. \*1067, 1219.
- Hemmi, Takewo. Anthracnose of *Carthamus*. 2659.
- Henderson, L. J., E. J. Cohn, P. H. Cathcart, J. D. Wachman, and W. O. Fenn. Action of acid and alkali on gluten. 1220.

- Henderson, L. J., W. O. Fenn, and E. J. Cohn. Viscosity of dough. \*1256.
- Henderson, M. W. Relation of Pyrolaceae and Monotropaceae to Ericaceae. 2434.
- Hendrickson, A. H. Plum pollination. \*258, 635.
- Henriksson, J. *Corylus Avellana*. 2982.
- Hendry, G. W. Climatic adaptations of Tepary bean. 1868.
- Henning, Ernst. Splitting disease of wheat in 1915 and 1918 in Holland. 2660.
- Henrard, J. Th. Galeopsis; a systematic and floristic study. 2981.
- Henry, A. Wood and trees of Ireland. (Anon. rev.) \*2500.
- Henry, A., and M. G. Flood. Hybrid larch. 2140.
- Herelle, see D'Herelle.
- Heribert-Nilsson, N. Heredity and evolution in *Salix*. (Rev. by Lehman) 2158.
- Herissey, H. (Bourquelot, Em., and H. Herissey) 438, 1714, 2840.
- Herman, V. R. Soy bean and cowpea for North Carolina. 1368, \*2661.
- Herrman. Germination-energy of pine seed. 2026.
- Hertwig, G. Amphibian hybrids. 1005.
- Herwerden, see Van Herwerden.
- Hess, A. F., and L. J. Unger. Scurvy of guinea pigs; antiscorbutics. 2847.
- Hesselbro, A. Bryophyta of Iceland. (Rev. by Andrews) 2466.
- Hesselman, H. Forest ecology in Sweden. \*2027. Pine heaths of Sweden. 2028.—Tree pollen dissemination. 1440, 2511.—Rev. of Pearson. 564, 1273.
- Heurn, see Van Heurn.
- Heusser, K. Permeability of disease cells. (Rev. by Hibino) 2825.
- Heyde, G. Dying through electrical current. (Rev. by Matouschek) 2694.
- Heyl, F. W. Pigments of *Xanthium* pollen. 1747.—(Schmidt, J. M., and F. W. Heyl) 2820.
- Hibbard, P. L. Effect of manure on soil. 2953.
- Hibino, S. Methods for ascertaining osmotic relations of diseased plant cells. \*2825.—Rev. of Heusser. \*1935.—Rev. of Trondle. \*1936, \*2826.
- Higgins, B. B. Gum formation, cankers, etc. \*1175, 1230.
- Hildebrandt, F. M. (Schultz, E. S., D. Folsom, F. M. Hildebrandt, and L. A. Hawkins) 2755.
- Hill, A. F. Flora of Penobscot Bay. 1810.
- Hill, G. F. Citrus canker in Australia. 770.
- Hill, M. Forest Administration report, Central Provinces, British India. 2029.
- Hillerstrom, E. (Lundborg, H.). Walloons in Sweden. 648.
- Hills, T. L. Nitrogen bacteria. (Anon. rev.) \*2932.
- Hills, T. L., and J. J. Putnam. Influence of woods on soil bacteria. \*456.
- Hilson, G. R. "Northerns" cotton in India. 1369.
- Hilton, A. E. *Capillitia* of Mycetozoa. 2488.
- Hiltner, L. Seed disinfection, etc. \*771.
- Hirsch, E. Rev. of Pascher, A. \*1581.
- Hitchcock, A. S. Botanical trip to Mexico. 1965.—*Lasiacis anomala*. 1108, 1828.—Mexican botany. \*149.
- Hoagland, D. R. Carbon dioxide and soil reaction. (Anon. Rev.) 2920, 2943, 2925.
- Hodge, C. F. Civic biology. (Rev. by Shinn) \*1926.
- Hodsoll, H. E. P. Garden manuring. \*2388.
- Hodgson, R. W. (Coit, J. E., and R. W. Hodgson) 394.
- Hoehne, F. C. Leguminosae of Brazil. 1297.—Orchidaceae of Brazil. 1298.
- Hoehnel, F. V. *Fungi Imperfecti*. 721.
- Hoff, J. N. Peat fertilizer. 2941.
- Hoffman, A. Sisal plantations. (Anon. rev.) 1340.
- Hoffman, J. A. *Mercurialis* poisoning. 1735.
- Hofman, J. J. Ethereal oil of *Cymbopogon Javanensis*. 2815.
- Hofsten, see Van Hofsten.
- Hogstad, Anton, Jr. Medical plant garden. \*2796, 1915.
- Holden, H. S. Seedling anatomy.—(Rev. by Coulter) 2427.
- Hole, R. S. Botanical terms. \*2984.—*Cassia auriculata* from British India. 546.—New species of *Ixora*. 2983.—Rev. of Venkatarama. 121.—Spike diseases of sandal in India. 2662.—*Sal* (*Shorea*) forest regeneration in India. 1441.
- Hollingshead, R. S. Chemical analyses of loganberry juice. \*808, 681.
- Holmberg, O. R. Flora of Scandinavia. 1811.—Hybrid *Carex* from Scandinavia. 2985.—Taxonomy of *Glyceria*. 1829.
- Holmes, A. D. Digestibility of some unutilized seed-oils. 682.
- Holmes, E. M. *Strophanthus* adulteration. 1708.

- Holmes, J. A., E. C. Franklin, and R. A. Gould. Rev. of Arnould. 1150, 1250.
- Holmes, J. S. Forest of North Carolina. 2030.
- Holmes, M. G. Water conductivity in ash. \*1208.
- Holmes, Smith E. Fiber culture in South Africa. 1370.
- Holzhausen, A. *Laeliocattleva suecica*. 259.
- Hooper, C. H. Fruit pollination. 2141.
- Hopkins, H. D. Forestry in Brotonne and Rouvray. 950.
- Hopping, Aleita. Teaching mineral nutrition of plants. 499.
- Horchem, B. J. Iowa state parks. 3041.
- Horne, W. T. Oak-rot fungus in California. 1176.
- Horton, R. E. Measurement of rainfall and snow. 2031.
- Hotson, J. W. Sphagnum for bandages. 124, 125.
- Horwath, see Von Horwath.
- Hou, I. P. Chinese plant oils. 683.
- Houten, see Van Houten.
- House, H. D. Fungi in New York. 1131.—Local floras, V. 2987.—New York plants collected by Asa Gray. 2986.—Two plants new to U. S. A. flora. 2988.
- Howard, A. Soil aeration. (Anon. rev.) 2944.
- Howard, A., and G. C. Howard. Drainage and crop production in India. 2952.
- Howard, B. F. Cinchona bark production. 1690.
- Howard, G. C. (Howard, A., and G. C. Howard) 2952.
- Howard, L. B. Soil lime-requirement and ammonia retention. 853.
- Howard, L. P. (Hartwell, B. L., Pember, F. R., and Howard) 2922.
- Howard, R. W. Rev. of Foster, J. H. 1172.
- Howe, C. D. Canadian forestry problems. 1442.—Canadian forests. 547.—Seeding of spruce in Canada. 548, \*1238.
- Howe, M. A. Tertiary calcareous algae. 1610.
- Hoyle, R. J. (McCarthy, E. F., and R. J. Hoyle) 213.
- Hubault, E. Douglas fir in French forest. 549.
- Hudson, C. S., and S. Komatsu. Rotary powers of sugar acid amides. \*1221, 1147, 1919.
- Hudson, C. S., and K. P. Monroe. Amides of mannoheptonic acid. \*1222.
- Huesser, K. Permeability of diseased cells. (Rev. by Hibino) 1935.
- Huffel, G. Available resources of German forests. (Rev. by Woodward) 970.
- Hug, [Enrique L. J. A.] Physiological properties of *Cestrum Parqui*. (Anon. rev.) 1711.
- Hughes, F. T. Botanical teaching. 927.
- Hughes, J. A. Peach pruning in U. S. A. \*1535.
- Hulton-Frankel, F., and Helene Barber. Sugar fermentation in medium for bacteria. 441.
- Hulton-Frankel, F., Helene Barber, and E. Pile. Synthetic medium for bacteria. 440.
- Humbert, J. G. Tomato diseases in Ohio. \*40.
- Humphrey, H. B. Cereal diseases. 108.
- Humphrey, H. B., and A. Johnson. Take-all and flag smut in U. S. A. \*2663.
- Hunnicut, B. H. Solanaceous forage plant. 906.
- Hunt, N. R. Iceless inoculation chamber. 2664.
- Hunter, Capt. H. Barley improvement. \*260.—Barley in Ireland. 636.
- Hurd, A. M. Light and orientation of *Fucus* spores, etc. 2909, \*1937.
- Hurry, J. B. Physiology of plant disease. 2665.
- Hurst, C. P. English mosses and hepatics. 704.
- Hutcheson, T. B. (Leighty, C. E., and T. B. Hutcheson) 49, 773, 2161, 1968, 173.
- Hutcheson, T. B., and T. K. Wolfe. Yield and ear characters of maize. \*41.
- Hutchinson, C. M. Nitrogen fertilizer in India. 1270. Nitrogen fixation in soil in India. 1272.
- Hutchinson, J. African Compositae. 152.—*Cordia Myxa*, etc. 154.—*Desmodium cinerascens*. \*1070, 2265.—*Primula bellidifolia*. \*1068, 2263.—*Primula chasmophila*. \*82, 150.—*Primula tibetica*. \*83, 2262.—*Rhododendron auriculatum*. \*84, 2260.—*Rhododendron callimorphum*. \*85, 2261.—*Rhododendron oleifolium*. \*1069, 2264.—*Tagasaste* and *Gacia*. 151.—*Taxotrophis* and *Balanostreblus*. 152.
- Hutchinson, R. H. Soil acids as influenced by green manures. (Anon. rev.) \*2921.
- Hutt, Harry. Dry-rot in construction. 402.
- Hyde, W. C. Brown-rot of stone fruits. 2666.—Orchard spraying, etc., in New Zealand. 2667.



- Ichimura, T. Anthocyanin in young leaves in Japan. 809.
- Ikeno, S. Chlorophyll inheritance. (Rev. by Coulter) 986.—Lethal factor in genetics. 1484.
- Illick, J. S. Pine plantation in Pennsylvania. 1443.
- Imai, Y. (Miyake, K., and Y. Imai) 2173.
- Ireland, Alleyne. Democracy and heredity. 261. (Rev. by Conklin) 984. (Rev. by Grant) 1000.
- Irwin, M. Carbon-dioxide production and acidity. 1231.
- Ishikawa, M. Embryo sac and fertilization in *Oenothera*. (Rev. by Coulter) 2424.
- Itano, A., and J. Neil. Physiology of *Bacillus subtilis*. \*1132.—Temperature and H-ion as related to *B. subtilis*. 1239.
- Iwaka, T. Coniferous woods of Japan. 1299.
- Jacobson, C. A. Alfalfa saponin. 1223, \*1722.
- Jaffe, H. Mendelian laws and human pathology. 42.
- Jaffa, M. E. (Condit, I. J., M. E. Jaffa, and F. W. Albro) 2398.
- Jansen, P., and W. H. Wachter. Adventive plants in Holland. 2989.
- Jardine, J. T., and M. Anderson. Forest range management in U. S. A. 1444, \*1371.
- Jenkins, A. E. Diaporthe on roses. 358.
- Jennings, D. S. Colloids and growth of wheat seedlings. 2945, \*2848.
- Jennings, O. E. Potamogeton Vaeyi in Ohio. 1966.
- Jensen, C. A. Citrus fruit growth related to soil moisture and climatic conditions in California. 2335, 2336.
- Jensen, C. O. Plant tumors. 109.
- Jensen, C. N. Blossom infection by smuts in Utah. \*2668.
- Jensen, Knud. Denmark's past vegetation. 2512.
- Jobez, H. Forest and pasture as discussed by the Vaud Society of Foresters. 550.—Forest and pasture in France. \*888.
- Johannsen, W. Rev. of Norstedt, C. T. O. \*1020.—Sugar content and hardness. (Rev. by Malte) 1380.
- Johannson, Hj. (Akerman, A., Hj. Johansson, and B. Platon) 2906.
- Johns, C. A., A. J. Finks, and Mabel S. Paul. Coconut globulin and cake. \*129.
- Johns, C. O., and A. J. Finks. Lysine from hordein. 2868.
- Johnson, Aaron. (Humphrey, H. B., and A. Johnson) 2663.
- Johnson, A. G. (Dickson, J. G., and A. G. Johnson) 2619.
- Johnson, A. J. (Patten, H. E., and A. J. Johnson) 2873.
- Johnson, James. Heated soils and seed germination. \*684, \*773, 854.—Inheritance of branching habit in tobacco. 2142.
- Johnson, Jas., and R. E. Hartman. Tobacco root-rot and temperature. \*855, 772.
- Johnson, J., and R. H. Milton. Thillevia and tobacco root-rot. 43.—Tobacco resistant to root-rot. 403.
- Johnson, M. O. Soil investigation in Hawaii. \*2669.
- Johnson, R. H. (Popenoe, P., and R. H. Johnson) 279.—Disputed parentage and infant mortality. \*44.—Heredity and illegitimacy. 1006.
- Johnston, E. L. Sand lily. \*2266.
- Johnston, J. R., and S. C. Brunner. Phyllosticta disease of royal palm. \*404.
- Johnston, T. C. Potato-growing in Virginia. \*1869.
- Jokl, Milla. Pythium and Spirogyra. \*359.
- Jolvet, A. French reforestation. 551.
- Jones, D. F. Selection for maize endosperm. 2143.—Rev. of Coulter, M. C. 988.
- Jones, D. F., and C. A. Gallastegui. Linkage in maize. 2144.
- Jones, H. M. Hydrogen-ion determination in turbid solutions. 2849.
- Jones, W. N. Sex determination. 637, 1486. (Rev. by Coulter) 612.
- Jong, see De Jong.
- Jordan, D. S. War and genetics. \*638.
- Jordan, W. H. New York Agric. Exp. Sta. Report, 1918. 856, \*197, \*332, \*360.
- Joshi, N. V. Nitrification of green manures. 2937, \*2869.
- Joshi, Shambhoo Datt, and others. Forestry report for Ajmer-Merwara, British India, 1917-1918. 2032.
- Judd, C. S. Forestry in Hawaii. 951, 552.
- Judd, Wm. H. Ornamentals for New England. \*2267.
- Juel, H. O. Thunberg's collections. 1300.
- Juillard, M. G. Two uncommon Boleti. 361.
- Jumelle, H. Castor bean in Marseilles. 1071.

- Kaiserling, C. Microphotographical apparatus and its use. (Rev. by Kirchner) 3042.
- Kajanus, B. Pea crosses. (Rev. by Sirks) 1511.—Crossing of spring wheat. 1007.—Hybrid spring wheat. \*912.—Genetical notes on *Papaver*. 2145, 2147.—Yellow-variegated *Pisum*. 2146.
- Kajanus, B., and S. O. Berg. *Pisum* crosses. 2148.
- Kannan, K. K. Mutation in *Coccidae*. 2149.
- Karper, R. E., and A. B. Connor. Cross-pollination in *milo*. 2150.
- Karraker, P. E. Teaching soil science. \*1870, \*1916.
- Karsten, G. Rev. of Ernst, A. \*2151.
- Katsufugi, K. Nematode disease of soybean. 2670.
- Kattur, G. L. Cotton in Maratha country, India. 170.
- Kauffman, C. H. Michigan fungi. 722.
- Kearney, T. H. (Scofield, C. S., T. H. Kearney, C. J. Brant, O. F. Cook, and W. T. Swingle) 199.
- Keeler, M. D. Potato storage in U. S. A. 1871.
- Keller, G. N. Tobacco in Ireland. 1372, \*2671.
- Kelley, F. J. (Cole, L. J., and F. J. Kelley) 237.
- Kellogg, R. S. Regulation of privately owned forests. 1445.
- Kelly, F. J. (Cole, L. J., and F. J. Kelly) 2102.
- Kempton, J. H. Aleurone color in Chinese maize hybrids. 2152.—Inheritance of maize endosperm. 2153.—Inheritance of waxy endosperm in maize. \*639.
- Kendall, A. I., and Marjorie Ryan. Sugar medium for bacteria. 810.
- Kendall, A. I., A. A. Day, A. W. Walker, and M. Ryan. *Streptococcus fermenta-tion*, XLII. 2851, \*2489.
- Kendall, E. C. Iodine compound of thyroid. \*2850.
- Kenhardt, Adolf. Custard-apple in South Africa. \*2337.
- Kern, F. D. *Cyperus* and *Eleocharis*. 723.
- Kestell, N. H. (Green, H. H., and N. H. Kestell) 2914.
- Key, W. E. Better American families. 262.—Heredity in human traits. 1008, 1009.
- Kidd, Franklin, and Cyril West. Influence of temperature in soaking seeds. 453.
- Kidston, R., and W. H. Lang. Plants from the Devonian of Britain. 1611.
- Kidston, R. Fossil plants from English Carboniferous. 2513.
- Kienitz, M. Naval stores methods for Germany. 1446.
- Kiesselbach, T. A. Competition in plant experiments. 2955.—Experimental error in field trials. \*1872.
- Kiesselbach, T. A. Forage crops in Nebraska. 1373.
- Kiessling, L. Barley defective in chlorophyll. 263.
- Kihara, Hitoshi. Cytology of cereal crosses. \*1938.—Cytology of cereals, II; chromosome number in *Avena*. 1939, 2154.
- Killip, E. P. Ferns of Panama. 1967.
- Kilmer, F. B. Study of drugs. 1684.
- Kimura, N. X-rays and carcinoma and sarcoma cells. \*2672.
- Kincer, J. B. Temperature related to planting and harvest dates. \*1873.
- King, C. A. Botanical teaching. 925.
- Kinman, C. F. Frost injury to avocados. 2338.
- Kirchner, O. Rev. of Appel. 2676.—Rev. of Fallada. 2673.—Rev. of Lüstner. 2674, 2675.—Rev. of Kaiserling. 3042.
- Kirk, T. W. Brown-rot of stone fruits. 1638, \*1536.
- Kirkham, Wm. B. Homozygous yellow mice. 264.
- Kirkland, B. P. Finance in forest industry. 1447.
- Kitts, J. A. Surface fire control to prevent forest destruction. 1448.
- Kjerskog-Agersborg, H. P. Natural science in Norwegian schools. 1917.
- Klason, Peter. Charcoal burning and dry distillation of wood. \*2033.
- Klebahn, H. Infection in graft hybrids. 1639. (Rev. by Fischer) \*2124.—Dispersal of *Peridermium pini*. \*724, 774.—Rev. of Bartlett. \*2144.
- Kleberger, Kling, and Westphal. Drying vegetables and fruits. (Rev. by Müller) 1566.
- Kloos, Jr., A. W. Plants about Weert, Holland. 2990.
- Knapp, A. W. Cacao culture. 2399.—Cacao shells. 1704.
- Knight, E. E. Guatemalan avocados in California. 2339.

- Knowlton, F. H. Fossil maize. 1141.—Mesozoic floras of the Americas. 1612.
- Knuchel, H. Beechnuts and acorns in Switzerland. 952.
- Knudson, L. Viability of root-cap cells. 1739.
- Köch, G. New disease on *Picea* in Austria. 2677.
- Koch, G. P. *Atropa belladonna*. 837.—*Hyoscyamus* culture in U. S. A. 1687.—Medicinal plant culture in U. S. A. \*901, \*902, 1685.—Stems, roots, and leaves of *stramonium*. 1723.
- Koch, G. P., and J. R. Butler. Digitalis culture in U. S. A. 1686.—Legume inoculation. \*175, 362.
- Koldzumi, G. Flora of eastern Asia. 1301.
- Kolmer, J. A. (Schamberg, J. F., J. A. Kolmer, G. W. Raiziss, and M. E. Trist) 2750.
- Konda, M. Maturity and germination in rice seed. 2805.—Seed appearance of mustard in Japan. 2806.—Thickness of rice husks. 2804.
- Kooiman, H. N. (Lotsy, G. P. H., N. Kooiman, and M. A. J. Goedewaagen) 52.—Origin of domestic animals. 1492.—Rev. of Lotsy, J. P. \*1487.
- Kopeloff, N., and Lillian Kopeloff. Cane-sugar deterioration. \*726, 819, 820.—Fungi on cane sugar. \*725.
- Koretschouer, Fr. Couch grass in brewing. (Rev. by Muller) 1391.
- Korstian, C. F. Rev. of Pulling, H. E. \*554.—Rev. of Smith, W. G. \*353.
- Koser, S. A., and L. F. Rettger. Nitrogenous compounds for bacteria. 816.
- Kotila, J. E. Frost injury of potatoes. 1640.
- Kottur, G. L. Preventing crossing of cotton in British India. \*640, 2156.
- Krakov, L. J. *Macrosporium* on *Trifolium pratense*. 775.
- Kraus, C. Sunflower culture. (Rev. by Metge) 1384.
- Kraus, E. J., and H. R. Kraybill. Lycopersicum factors in productivity. 1488, \*641.
- Kraybill, H. R. (Kraus, E. J., and Kraybill) 1488.
- Krugenberg, B., and E. Th. Tielemann. Dioxochrome and trioxochrome stains. 3034.
- Krishnamurti, Row K. Salinity and growth of sugar-cane. 2928, \*2831, \*1874.
- Kuhn, A. Inoculation of cereals. (Rev. by Metge) 1804.
- Kuiper, K. Rev. of Haecker V. \*45.—Rev. of Punnett, R. C., and the late Major P. G. Bailey. \*1489.
- Küster. Rev. of Czapek, Guttenberg and Baur, 2823.
- Küster, Ernst. Mosaic variation, etc. 265.—Vital staining of plant cells. 2824.—Malnutrition in plants. (Rev. by Matouschek) 2692.
- Lacaita, C. Rare Italian plants. 2991, 2992.
- Laer, see Van Laer.
- Laffer, H. E. Vine diseases in Australia. 1177.—Vine mildew, New South Wales. 2678.
- Laidlaw, W., and O. C. Brittlebank. Black-spot and leaf-curl in Australia. 1641.
- Lam, H. J. *Verbenaceae* of Malaya, etc. 1830.
- Lamproy, E. Early carrots, etc., in France. 1538.—Sea-kale culture in France. 1539.—Turnip forcing in France. 1537.
- Landis, W. D. War and the nitrogen industry. 857.
- Lane-Poole, C. E. Drying jarrah wood (*Eucalyptus marginata*). 1449.—Forestry report for 1918, western Australia. 1450.
- Lang, W. H. (Kidston, R., and Lang) 1611.
- Lange, see Ten Houte De Lange.
- Lange, D. Mysteries of plants. \*1918.
- Lankester, Sir Ray. Terminology of parthenogenesis. \*642, 1010.
- Lansdell, K. (Pole Evans, I. B., and Lansdell) 1394, 1395, 1396, 1397.
- Lantes, Adelaide. Herbaria. \*924, \*1919.
- Larsen, J. A. Testing of tree seeds. 12.
- Larsen, S. G. Potato silage. \*471.
- Larson, W. P., W. F. Cantwell, and T. B. Hartzell. Growth of bacteria and surface tension. 1257.
- Latham, H. A., et al. Forestry report, Madras, 1917-18. 2034.
- Lathrop, F. H. Leaf-hoppers and apple. 405.
- Laughlin, H. H. Population schedule for U. S. A. census. \*643.
- Lauritzen, J. I. Temperature and humidity in fungous diseases. 2679, \*2905.
- Lauterbach, G. Flora of Papuasias, VI. 2993.—*Rutaceae* of Papuasias. 2994.
- Lazell, F. J. State parks in Iowa. 3044.
- Leach, J. G. (Stakman, H. C., H. K. Hayes, O. S. Aamodt, and J. G. Leach) 2200.
- Leathers, C. E. (Norton, J. B. S., and Leathers) 276.



- Leavitt, Clyde. Silvical research in eastern U. S. A. 1451.
- Lebert, M. Rev. of Appleman, C. O. 1210.
- LeClerc, J. A. Potato flour. 472.
- Lecomte du Nuoy, P. Measurement of surface tension. \*1258.
- Lecomte, H. Delpydora in Africa. 1304.  
New Baillonella of the Congo. 1303.—  
Northea trees of Seychelles Islands.  
1302.—Phyllodinium in the Congo. 1305.
- Ledeboer, F. Spread of gum disease in Dutch Indies. 2680.
- Lederle, P. (Mach, F., and P. Lederle) 2852.
- Lee, H. A. Copper stearate. 406.
- Lee, H. A., and E. D. Merrill. Hosts of citrus canker. 2681.
- Lee, S. C. Electrical treatment of seed. \*1374, \*2915.
- Lee, Y. K. Forestry education in China. \*300, \*555.—Relation of forestry to farming in China. \*232.
- Lees, J. H. Iowa park sites. 3045.
- Lefferts, D. C. Mulching in citrus culture. 2340.
- Lehmann, Ernst. Crosses in *Epilobium*. 266.—*Epilobium* hybrids. 46.—(Rev. by Lotsy) 1492.—Fertility in *Cichorium*. 48.—Recent work on *Oenothera*. \*47.—  
Rev. of (1) Bateson and Pellaw, (2) Biffen, (3) Backhouse (4, 5, 6), Caporn. \*2157.—Rev. of Heribert-Nilsson, N. \*2158.—Rev. of White, O. E. \*2160.—  
Self-sterility of *Veronica*. 2159.
- Leiby, R. W. Potato diseases in North Carolina. 2682.
- Leighty, C. E., and T. B. Hutcheson. Blooming and fertility of wheat. \*49.—  
Blooming of wheat. \*173, 2161, 1968.
- Lek, see Van der Lek.
- Lemarie, C. (Crevost, C., and C. Lemarie) 2008.
- Lemmerman, O. Humus brown coal as preservative for manure. (Rev. by Metge) 1768.
- Lenz, Fritz Alternative modifications in butterflies. 2152.
- Leone, G. Root-rot of orange in Tripoli. 2683.
- Leslie, A. S. Poplars in Scotland. 953.
- L'Esprit, A. Locust (*Robinia pseudacacia*) in France. 1540.
- Levine, M. Non-edible mushroom in mushroom beds. 727.—Rev. of Bensaude. \*644.
- Levy, Daisy J. Mosses of Lake George, New York. 2474.
- Levy, E. B. Seed-testing in New Zealand. 556.
- Lewin, Louis. Arrow poisons. 1736.
- Lewis, A. C., and C. A. McLendon. Cotton variety tests in Georgia. \*777, 473.
- Lewis, A. C., W. W. Chase, and W. F. Turner. Georgia spray calendar. \*776.
- Lewis, C. I. Correlation of orchard practices. \*1764.—Fruit deterioration in Oregon. 2342.—Orchard practices in Oregon. 2341.—Pruning. 1541, \*1756.
- Lewis, C. O. Premature determination of fruits in Oregon. 1642, \*1748.
- Lewis, I. F. Vegetation of Schackelford Bank, North Carolina. 1969.
- Liautard. Vine sprays in Algeria. 2684.
- Lie, Haakon. Norwegian mountain forests. 2035.—Wolves in Norway. 954.
- Lillie, F. R. Free-martins. 1490.
- Lind, J. C. Heerfordt's herbarium. 2803.
- Lindet. Alcohol from grape ensilage in France. \*1259, 1072.—Palm oil. 1073.—  
Rev. of Rolet. 3046.
- Lindstrom, A. A. Specific distinctions in *Rosa*. 1831.
- Link, G. K. K. Potato diseases and transportation. 1178.
- Lipman, C. B. Bacteria in California soils. 858.
- Lipman, C. B., and W. F. Gericke. Stable manure as a neutralizer of soil alkali. 1765.
- Lipman, J. G. Adjustment of soil reaction to crop. 2923.
- Lippincott, W. A. Poultry breeding. \*50, 1011.
- Lister, G. Mycetoza of Britain. 1133.
- Livingston, B. E. Responsibilities of botanical science. 1847.
- Ljungdahl, G. S. Use of compass in forestry. \*2036.
- Lloyd, C. G. Fungi in Lloyd museum. 1134.—  
Mycological notes, 54. 363.—Mycological notes, 55. 364.—Mycological notes, 56. 367.—*Xylaria* notes, 1. 365.—*Xylaria* notes, 2. 366.
- Lloyd, F. E. Mucilage in cacti, etc. \*429, 442.
- Lodurizus. Chrysanthemum propagation in Spain. 2271.—Hedges in Spain. 2272.—  
Rose pruning in Spain. 2269.—*Rosa wichuriana* in Spain. 2270.—Trees for boundary lines in Spain. 2268.

- Loeb, Jacques. Basis of polarity in plants. 1248.—Amphoteric colloids, IV. 1204.—Amphoteric colloids, V. 1205.—Osmotic properties of electrolytes. 1203.—Polarity and regeneration. \*92.
- Lohr, P. J. Leaf anatomy of alpine and prairie plants. \*2455, \*2887.
- Lombarteix, Jean Marie. Potato degeneration in France, and seedling potatoes. 645, \*51.
- Long, Frances L. Determination of photosynthesis. 1375, 1452, 2833, 2685.
- Longo, B. Polyembryony. 1569.
- Loreé, R. E. Ribes culture in Michigan. 2343.
- Lotsy, J. P. Constant hybrids. 268.—Intranuclear crossing in homozygotes. 267.—Mutations from crossing, and evolution. (Rev. by Kooiman) 1487.—*Oenotheras* as chimeras. 52.—Rev. of Bateson, W. \*1491.—Rev. of Kooiman, H. N. \*1492.—Rev. of Morgan, T. H., A. H. Sturtevant, H. J. Muller and C. B. Bridges. \*1494.—Rev. of Lehman, E. Hybrids of *Epilobium*. \*1493.
- Love, H. H., and W. T. Craig. Cereal investigations at Cornell Univ. Exp. Sta. \*646, 2163.—Fertile wheat-rye hybrids. \*647.—Hybrid wheats. 1012.—Production of wild wheat forms. \*53.
- Loveday, Hilda. (R. G. Stapledon, R. G., and H. Loveday) 1886.
- Lovejoy, P. S. Review of lumber industry affairs. 1453.
- Lowe, Rachel L. Arkansas mosses. 2475.—Oklahoma mosses. 2476.
- Ludewaldt, G. Paulista museum at Sao Paulo. \*1306.
- Luijk, A. van. Geoglossaceae of Holland. 2490.
- Luisier, A. Madeira mosses. 2477, 2478.
- Lundberg, Gustaf. Stump-wood in Sweden. \*2037.
- Lundborg, H. Human races in Sweden. 648.
- Lundegard, H. Geotropism and autotropism. (Rev. by Stark) 2897.—Physiology of shore plants. \*1240.—Shore plants. \*1110.—Stimulus magnitude and reaction. \*1247.
- Lüstner, G. Control of vine pests. (Rev. by Kirchner) 2674, 2675.—Peroid for grape mildew in Germany and Austria. 1643.
- Lutman, B. F. Turgor in potato. \*778, 800.
- Lynch, Vernon. Cell nucleus. 811, \*1940.
- Lynde, C. J. Lime requirement. 1276.
- Lynn, E. V. (Miller, E. R., and Lynn) 1726.—Camphene in hemlock oil. 1725.—Therapeutics of oxidized terpenes. 1724.
- Lyon, T. L. Fertilizers and crop rotation in New York. 2946, \*1376.
- M., M. S. Reforestation in Scotland. 933.
- MacCaughy, V. Hawaiian palm, *Pritchardia*. 1307.—Mangrove. \*1454.—Race mixture in Hawaii. 54.—Race mixture in Hawaii. 269, 1013.
- MacDaniels, L. H. Histology of phloem. (Rev. by Bailey) 2412.
- MacDermott, F. D. Agricultural and pastoral South Africa. \*1377, \*1373.
- Macdonald, A. F. Mexico as source of timber. 2038.
- MacDougal, D. T., and H. A. Spoehr. Origin of xerophytism. 2889.
- MacFarlane, J. M. Rev. of Gager, C. S. 997.
- Macht, D. I. Citrullus poisoning, with Bible reference. 126.
- Mach, F., and P. Lederle. Titanium trichloride in analytical practice. 2852.
- Mackie, D. B. Navel Satsumas in California. 2164, 2344.
- MacMillan, H. G. Fusarium blight of irrigated potatoes. 407.—Vitality of alfalfa roots. 1875.
- Macoun, W. T. Apple breeding in Canada. 649.—Blight-resistant potatoes in Canada. 1644.—Potato growing in crates. 883.
- Maffei, L. (Turconi, M., and L. Maffei) 2773.
- Magnusson, H. Hermaphroditism in cattle. 1014.—Sexless twins in cattle. \*55.
- Magoon, C. A., and J. S. Caldwell. Pectin from fruits and vegetables. \*443.
- Mahood, S. A. Oleoresin from Douglas fir. 557.
- Maiden, J. H. Revision of *Eucalyptus*. 1308, 2995.—(Rev. by Beringer, G. M.) 425.
- Main, M. E. Cultivating wild flowers. \*2273.
- Main, F. Rev. of Fauchère, A. 1379, \*1766.
- Mainwaring, C. Linseed in Rhodesia. \*1876.—Weeds in Rhodesia. \*1877.
- Maiocco, F. L. Mendel's law of heredity. \*650.—(Rev. of P. Enriques) 626.
- Makemson, W. K. Cladosporium on tomato. 779.

- Malmanche, L. A. Anatomy of Eriocaulonaceae. (Anon. rev.) 1696, 2409.
- Malte, M. O. Sugar content and winter hardiness in wheat. 1380.—Rev. of Akerman, Johansson, and Platon. \*2906.
- Mangin, L. Death of spruce in Arve valley. 2687.—Effects of factory gases on plants. 2686.
- Mangin, Vincey, Haller, and Henneguy. Death of spruce in France. \*955, 1179.
- Mann, H. H. Variation in flowers of Jasminum. (Anon. rev.) 1099.
- Mann, H. H., and S. D. Nagpurkar. Potato "ring disease" in India. 2688.
- Mann, P. B. Botanical teaching. 926.
- Mansfield, W. Squibb's Atlas. (Anon. rev.) 1691.
- Marchal, P., and G. Arnaud. Plant pathology in France. 1645.
- Marie-Victorien, Fr. des E. C. Indian herb remedies. 1692.—Pollination in aquatics. 1111.
- Marissen, J. Z. Plant breeding. (Rev. by Bos) \*2090.
- Markle, M. A. Plant succession on Hudson River and Niagara limestones. 1970.
- Markowski, A. Botrytis cinerea as a parasite. (Rev. by Matouschek) 2693.
- Mårn, L. M. Mathematics of variation, etc. \*2040.
- Marsh, C. D., A. B. Clawson, and H. Marsh. Stock poisoning by oak leaves. 10.
- Marsh, H. (Marsh, C. D., A. B. Clawson, and H. Marsh) 10.
- Marshall, E. S. Somerset plants, 1918. 2996.—Barbarea rivularis in England. 2997.
- Martin, Dr. H. Beech in mixed forests in Saxony. 1455.
- Martin, J. N. Botany for agricultural students. 2165, \*1920.
- Martin, Walter. Conditions influencing infection. 408.
- Masere. Tapetum in Solanaceae, etc. 1570.
- Massa, C. Stereum on holm-oak in Italy. 2689.
- Massalonga, C. Podostemonaceae of Brazil. 2998.
- Mathews, J. W. Economic plants at Nat. Bot. Gard. Kirstenbosch, South Africa. \*1877.
- Matouschek. Gooseberry mildew. 2697.—Theory of variability. 56.—Rev. of Michalusz, V. 2436.—(Anon. rev.) 2534.—Rev. of Beijerinck. \*2166, \*2167.—Rev. of Correns, C. \*1495.—Rev. of Gertz. 2699.—Rev. of Heyde. 2696.—Rev. of Küster. 2693.—Rev. of Markowski. \*2698.—Rev. of Neumann. 2691.—Rev. of Raunkiaer, C. \*1496.—Rev. of Rebmänn. 2690.—Rev. of Rudan. 2694.—Rev. of Schwerin. 2692.—Rev. of Von Tubeuf. 2274.—Rev. of Vadas. 2697.
- Matson, J. Alfalfa in India. 169.
- Matsuda, S. Flora of Hainan, China. 1310.—Flora of Szechuen, China. \*1284, 1309.
- Matsushima, T. Water intake by cut branches. 2828.
- Matthews, C. D. Rept. North Carolina Div. of Horticulture, 1919. 2345.
- Matthews, D. W. Timber supply in the Philippines and North Borneo. 1456.
- Matthews, W. H. Agricultural progress in British Guiana. \*1381.
- Maw, P. T. Afforestation. 956.
- Maxwell, Hu. Wood used in cooperage in U. S. A. 1457.
- Maxon, W. R. Hybrid Asplenium. \*270.—New Alsophila. 1821.—New Cheilanthes from Mexico. 1820.
- Mayer, J. L. Menthol in alcoholic solution. 2816.
- Mayer, P. "Sublimate crystals" in microscopic preparations. \*3047.
- McAtee, W. L. Winter blooming at Washington, D. C. \*2888.
- McBeth, I. G., and J. R. Allison. Manure standardization in southern California. 2347.
- McBeth, I. G., and J. R. Allison. Orchard heating in California. 2346, \*2907.
- McCall, A. G., J. B. S. Norton, and P. E. Richards. Soy bean in sand-culture. \*824, 859.
- McC Campbell, C. W. Kansas horse-breeding and livestock registry. 2168.
- McCarthy, E. F. Reforesting Adirondack cut-over lands. 1458.
- McCarthy, E. F., and R. J. Hoyle. Pulp from balsam lands in United States. 213.
- McClellan, W. R. Potatoes in Colorado. 474.
- McClelland, C. K. Cotton and corn in Georgia. 889.—Velvet bean in Georgia. 890.
- McClelland, T. B. Porto Rican coffee lands. 2348.—Vanilla in Porto Rico. 1074.
- McClendon, J. F., and H. J. Prendergast. Ultra-microscopy of egg albumen. 2870.



- McClendon, J. P., and P. F. Sharp. Hydrogen-ion concentration of foods. 2853.
- McCullum, E. V., N. Simmons, and H. T. Parsons. Pellagra-producing diets. 2854.
- McCool, M. M., G. N. Grantham, and C. E. Miller. Phosphorus and Michigan soils. 1787.
- McCubbin, W. A. White pine blister-rust. 409.—Brown-rot in Canada, 1918. 2703.—Plant diseases in Canada, 1917. 2700.
- McCulloch, W. J. Ensilage in New Zealand. \*1382.
- McCutcheon, A. Household drugs of Scotland. 838.
- McDole, G. R. (Alway, F. A., and G. R. McDole) 2950.
- McGuire, G. (Falk, G. K., G. McGuire, and E. Blount) 2879.
- McHargue, J. S. Barium and strontium stimulating growth, etc. 140.
- McHatton, T. H., and J. W. Firor. Georgia spray calendar. \*780.
- McHatton, T. H., J. W. Firor, and R. E. Blackburn. Tomatoes in Georgia. 1075. \*1264.
- McHatton, T. H., and H. W. Harvey. Peach in Georgia. 685.
- McIntosh, R. Punjab forestry, 1917-18. 2039.
- McLean, R. C. Tropical rain forests, Brazil. \*2437, \*2829.
- McMaster, P. D. Oils, etc. as antiseptics. 829.
- McMiller, P. R. Treatment of Minnesota subsoils. 2947.
- McMurray, Nell. Stamens of meadow-parsnip. \*2438.
- McNider, Mrs. C. H. Public parks for Iowa. 3048.
- McRae, W. Rice disease. 110.
- McTaggart, A. Agric. in New Zealand. 892.—Crop rotation in New Zealand. 893.
- McWilliams, C. J. Agriculture in the high school. 1921.
- Meador, P. D. Variation in the diphtheria group. \*271.
- Melander, A. L. Coddling moth. 1542.—Dry and liquid lime-sulphur mixture. 2704.
- Melin, D. Mimicry and cryptic colors. 2169.
- Melle, H. A. Kikuyu grass (*Pennisetum*) in South Africa. \*1383.
- Meller, C. L. *Monarda* as an ornamental. 1076.—Ornamentals for shade. 1077.
- Mellstrom, G. Seed production of Swedish forests. 1459.
- Melrose, G. P. Injury to Canadian Douglas fir. 558.
- Melvill, J. Cosmo. Teratology in *Papaver*. 2439.
- Mendel, B. (Osborne, T. B., and L. B. Mendel) 131, 172, 2856, 2871.
- Mendiola, N. B. Inhibitor in rice. 2170.—Variation in *Lemna*. \*272, 1015.
- Menon, C. K. *Embelia* as influenza cure. 1672.
- Mer, E. Influence of tree-size on results of thinning. 2041.
- Mercer, S. P. (Mercer, W. B., and S. P. Mercer) 2702.
- Mercer, W. B., and S. P. Mercer. Smuts of barley and oats. 2702.
- Merchan, A. Electric seed treatment. \*898, 1251.
- Mercier, C. A. Electrification of seeds. \*2701.
- Merrill, E. D. (Lee, H. A., and E. D. Merrill) 2681.
- Mestrezat, W., and Th. Casalis. Iodine monochloride as antiseptic. 410.
- Metcalf, Haven. White pine blister-rust control. \*8, 411.
- Metge, G. Rev. of Clausen. 1385, \*1767.—Rev. of Clausen. 1783.—Rev. of Kraus, C. 1384.—Rev. of Kuhn, A. 1804.—Rev. of Lemmerman, O., and H. Wiessmann. 1768.—Rev. of Popp, M. 1799.—Rev. of Wagner, P. 1386, \*1769, 2917.
- Meunissier, A. Tobacco in Indo-China, etc. 1387.—(Vilmorin, J. de, and A. Meunissier) 202.
- Meunissier, E. Hop sprouts as vegetables. 1543.
- Meves, F. Plastosome theory of inheritance. 2171.
- Meyer. Storage of calcium cyanamide. (Rev. by Müller) 1800.
- Meyer, A. Heredity and child welfare. 2172.—Right to marry. \*273.
- Meyer, A. W. Superfoetation. \*651, 1497.
- Meyer, E. W. (Willstätter, R., O. Schuppli, and E. W. Meyer) 2862.
- Meyer, F. B. *Peony*. \*2275.—Trees as memorials. \*1922.
- Meyer, Rud. Forms of *Echinocerus*. 2999.
- Meyerhof, O. Respiration and fermentation. 1753.
- Miège, Em. Soil disinfection in France. 2705.

- Miehe, H. Symbiosis in *Casuarina*. \*1646.
- Mignault, L. D. Habits of *Vallisneria*. 1112.
- Mihalusz, V. Abnormal leaf formation in *Taraxacum*. (Rev. by Matouschek) 2436.
- Millar, C. E. Soluble material in cropped and virgin soil. 2948.—(McCool, M., G. N. Grantham, and Miller) 1787.
- Miller, C. C. Injurious lemon roots. 2349.
- Miller, C. E. Soil solution, and bacteria. (Anon. rev.) 2933.
- Miller, E. R., and E. V. Lynn. Oleoresin of *Pinus ponderosa*. 1726.
- Miller, H. G. Influence of sulphates on plants. 1770, \*1743.
- Miller, J. Potatoes in Ontario. \*881, \*1180, \*1279.
- Millspaugh, C. F., and E. E. Sherff. Revision of North American *Xanthium*. 3000.
- Milne, Home J. H. Pine weevil control. 957.
- Milton, R. H. (Johnson, Jas., and R. H. Milton) 403.
- Ministere de l'agriculture. French pathological work. 2706.
- Minod, M. *Stemodia*, etc. in America. 1311.
- Mirande, M. Alkaloid of *Isopyrum thalicroides*. 430, \*444.
- Mitchell, J. A. Bear clover (*Chamoebatia*) in western U. S. A. 559.
- Mitra, M. Winter and summer pruning. 2350, \*2894.
- Miyake, K., and Y. Imai. Inheritance in *Digitalis*. 1713.
- Miyaza, B. Japanese *Rhododendrons*. 1312.
- Miyazawa, B. Inheritance in *Convolvulus*. 57.
- Mohr, O. L. Chromosome mutation in *Drosophila*. 2174.—(Bridges, C. B., and O. L. Mohr) 2093.
- Mohr, O. L., and A. H. Sturtevant. A semi-lethal in *Drosophila*. 2175.
- Molliard, Marin. Production of citric acid by *Sterigmatocystis*. \*369, 445.
- Molz, E. Breeding of disease-resistant grapes. \*58, 2707.—Rev. of Van der Lek, H. A. A. 73.—(Müller, H. C., and E. Molz) 2710.
- Mongenot. Spruce in relation to dryness. 2042.
- Monroe, K. P. Xylose from corn cobs. 1224.
- Montemartini, L. Combatting *Phytophthora* on potatoes in Italy. 1647.
- Monziols, M. Calcium chlorite for disinfecting the hands. 412.
- Mooers, C. A. Field-placed cylinder experiments. 2924.
- Moore, C. R. Gonad transplantation in rats. 1498.—Gonads as controllers of somatic and psychical characters. \*59, \*652, 1499.
- Moore, G. T. Botany's part in war work. 1848.
- Moore, S. Le M. *Alabastra diversa*. 3001, 3002, 3003.
- Moreau, Fernaud. Biomorphogenesis of lichens. 368.—Bleaching of paper pulp colored by *Rhizopus*. 457.—Nuclear division, spores of *Endophyllum semper-vivi*. 1941.—Parasitic fungus on box. 1135, \*1181.—Microtechnique of fungi. (Rev. by Frago) 1590.
- Moreno, E. Combustibility of tobacco. 1879, \*2956.—Fertilizer and combustibility of tobacco. \*1260, 1265.
- Morgan, A. F., and A. M. Heinz. Nitrogen of wheat and almond. \*130.
- Morgan, T. H., and C. B. Bridges. Chromosome maps. 2176.—Inheritance of fluctuating character. \*653, 1016.
- Morgan, T. H. Mendelian heredity. (Rev. by Lotsy) 1493.—Heredity and sex. (Rev. by Sirks) 1511.—(Sturtevant, A. H., C. B. Bridges, and T. H. Morgan) 293.
- Morrison, H. (Pratt, J. H., and H. Morrison) 2818.
- Morse, F. W. (Stevens, N. E., and Morse) 1661.
- Morvillez, F. Conducting organs in leaves of *Saxifragaceae*. \*1832.
- Mosley, F. O. Control of fungus and insect pests. \*1648.
- Mottet, S. *Eryngium giganteum*. 1546.—Monstrous potato tubes. 1571.—*Neillia*, *Physocarpus*, and *Stephanandra*. 1544.—New *Viburnums* from China. 1548.—*Picea omonica*. 1545.—Popular potato varieties in France. 1388.—*Schizophragma integrifolium*. 1547.
- Mottram, V. H. Fat tests, sudan III. 812.
- Mousley, H. Orchids of Hatley, Quebec. 3004.
- Muhammed. (Afzal, Muhammed, and others) 1987.
- Müller, B. Rev. of Kleberger, Kling, and Westphal. 1566.—Rev. of Koritschener, Fr. 1391.—Rev. of Meyer. 1800.—Rev. of Ranninger. 1390.
- Müller, H. C., and E. Molz. Seed protections. 2710.

- Muller, H. J. Mendelian heredity. (Rev. by Lotsy) 1493.
- Müller, K. Grape disease and insect control. \*1649.
- Mullett, H. A. Cultivation in Australia. \*475, 860, 861, \*476, 362.—*Lolium subulatum* (rye-grass) in Australia. 1389.
- Mulvania, M. Azotobacter and yeasts. 1136.
- Muncie, J. H. Bean diseases in Michigan. 1182, 1183.
- Mundt, W. *Cereus aurivillus*. 3005.
- Munger, H. E. Potato grading in Colorado. 884.
- Munn, M. T. Seed-borne diseases. 2708.
- Munns, E. N. Chaparral in western U. S. A. 560.—Flood control in southern California. 1460.—Women in lumbering, southern U. S. A. 561.
- Munter, F. Zeolite in soils. (Rev. by Volhard, J.) 1806.
- Munz, P. A. The acacia in California. 1923.
- Murveck, Sv. Abnormal flowers in *Capsella*. \*60, 274.—Relationships of *Lepuropetalon*. 1313.—Staminal pseudopetaly. 1017.
- Murphy, P. A. Seed potato inspection in Canada. 918.—Rev. of Hasselbring, H. 1130.—Potato inspector in Canada. \*1184.
- Murray, A. Soils and tree-planting in Scotland. 958.
- Murray, J. C. Molasses as a fertilizer in Australia. 1788.
- Murray, J. G. Ovary and sex causation. 654, \*275.
- Murrill, W. A. Bahama fungi. 2491.—Collecting fungi in Virginia. 2709.—Fungi from Ecuador. 2493.—*Lenitus* from Minnesota. 2492.—Illustrations of fungi. 728.—Queer fungous growths in Texas. 2494.
- Myhrwold, Prof. French silviculture. \*562.
- Myhrwold. Swedish Forestry report for 1917. 2043.
- Nachtsheim, H. Inheritance factors in *Drosophila*. 2177.
- Nagai, I. Adventitious growth in *Marchantia gemmae*. 2902.
- Nagpurkar, S. D. (Mann, H. H., and S. D. Nagpurkar) 2688.
- Nakai, T. Flora of Japan and Korea. 1315.—Plants from Japan and Korea. 3006.—Revision of eastern Asiatic Arabs. 1314.
- Nakajima, Y. Seed distribution of *Ottelia alismoides*. \*1572.
- Nakamuro, M. (Asai, T., and M. Nakamuro) 2836.
- Namikawa, I. Anther dehiscence in Solanaceae. 2440.
- Nansen, Fritjof. Norway spruce in France. 563.
- Narasimhan, J. Root-nodes in *Casuarina*. 111.
- Nash, G. V. Winter-injury to evergreens in New York. \*2711.
- Nathorst, A. G. Ginkgo in Spitzbergen Tertiary. 736.—Ginkgo, etc., from Spitzbergen. 1613.—Paleobotanical notes. 2515.—Swiss fossil *Dryas* flora. \*2514.
- Naumann, Einar. Algal structures demonstrated with crayons. \*2461.—Demonstration ocular. \*3049.—Microscopic counting. 3051.—Ocular limitation of microscopic field. \*3050.
- Neethling, J. H. Dwarfs in wheat hybrids. 2178.
- Neger, F. W. Potato leaf-roll. 2712, \*2918.—Sooty moulds. \*1185.
- Neger, F. W., and G. Büttner. Tharandt arboretum. 1461.
- Neidig, R. E., C. W. Clover, H. P. Fishburn, and C. L. von Ende. Acids of silage. \*446.—Physiology of ripening of fruit. \*451.
- Neller, J. R. Production of CO<sub>2</sub> and accumulation of NH<sub>3</sub> by soil organisms. \*447.
- Nelson, E. K. Capsaicin. \*1225.
- Nelson, J. C. Diamond-flower (*Ionopsisidium*) in Oregon. \*3008.—Freak fox-glove (*Digitalis*.) 2276.—Gender of *Rumex*. 3007.
- Nelson, J. M., and F. M. Beegle. Rotation of glucose and fructose. \*1226.
- Nelson, W. *Crotalaria* in South Africa. \*2277.
- Neuman, L. M. *Rubus acupilosis* in Sweden. \*3009.
- Neumann, O. Dying through electrical current. (Rev. by Matouschek) 2694.
- Newcomb, E. J. (Fisher, S. F., and E. J. Newcomb) 2641.
- Newell, W. Citrus canker in Florida. 2713, \*2351.
- Newman, H. H. Twins, mammals. (Rev. by Thompson) 668.
- Nichols, G. E. Raised bogs in Maine. 1971.
- Nilsson-Heribert, N. Rev. of Norstedt, C. T. O. 1018.
- Nobbs, E. A. Maize grading in Rhodesia. 1392.



- Nohara, S. Non-Mendelian heredity in *Raphanus*. 1499.
- Nolls, C. F. (Skinner, J. J., and Nolls) 1791.
- Nolte, O. (Ehrenberg, P., and O. Nolte) 2832.
- Nordenstreng, R. (Lundborg, H.) 648.
- Norstedt, C. T. O. Linnaeus on inheritance. \*1019.—Heredity and history. \*1020.—Heredity in *Salix*. \*1018.—Rev. of Gertz. \*3010.—Rev. of Harms. U. Sex ratios in *Drya octopetala*. \*1573. Rev. of Hasselman. \*2044, \*2516.—Rev. of Ostenfeed. \*3011.
- Northrup, J. H. Acids and protein digestion. 1232.
- Northrup, J. H., L. H. Ashe, and J. K. Senior. Biochemistry of *Bacillus Acetotsyllum*. 2890. Norton, J. B. Rust-resistant asparagus in U. S. A. \*413, 655.
- Norton, J. B. S., and C. E. Leathers. Conditions detrimental to seed production. 276, 656.
- Nowell, W. Foot-rot of limes in West Indies. 1651.—Frog-hopper pest and sugar-cane disease. 2716.—Red-ring nematode disease of coconut palm. 1650.—Root-disease of coconut in Grenada. \*2715.—Visit to Trinidad. 2717.—Rev. of Ashby. \*2714.
- Nuoy, see Lecomte du Nuoy.
- Okey, Ruth. Inulin in the animal body. 2855.
- Olin, W. H. Growing seed potatoes. 477.
- Oliver, F. W. Botany teaching in England. \*209.—(Carey, A. E., and F. W. Oliver) 1972.
- Olmsted, F. E. Forest policy in U. S. A. 1462.
- Olney, A. J. Tomato experiments in Kentucky. 2389.
- Olson, P. J., C. P. Bull, and H. K. Hayes. Ear-type selection in maize. 277.
- Ong, see DeOng.
- Opsahl, W. Trip through Danish forests. 2045.
- Orr, Ellison. Conservation and education in Iowa. 3052.
- Orr, Helen. Spring garden flowers. 2278.
- Orton, C. R. Polemoniaceous rusts. 2495.
- Orton, C. R., and F. D. Kern. Potato wart in Pennsylvania. 1186.
- Orton, W. A. Potato disease control. 1187.
- Osborn, C. C. Peat in Dismal Swamp, Virginia and North Carolina. 3053. Possibilities of peat. 3054.
- Osborn, H. F. Rev. of Russell. 68.
- Osborne, T. B., and L. B. Mendel. Nutritive factors in plants, II; water-soluble vitamins. 2856.—Nutritive value of wheat kernel. 172.—Nutritive value of yeast protein. 2871.
- Osborne, T. B., A. J. Waksman, and E. L. Ferry. Protein free from water soluble vitamins. 2872.
- Osborn, T. G. B. Rept. Botanist and Pathologist, South Australia. 781.
- Ostenfeld, C. H. Danish trees and shrubs; elms. (Rev. by Nordstedt) 3011.
- Osterhout, W. J. V. Action of alkaloids on permeability. 1207.—Comparative permeabilities in plant and animal. 1206.
- Otis, A. W. Fruit export possibilities in United States. \*333.
- Ottolander, T. *Rafflesia natuurmonumenten* in Sumatra. \*1316.
- Overholts, L. O. *Poria* species. 1137.
- Paddock, E. H. Bridge-grafting of citrus trees. 2352, 1078.
- Padron, A. Spraying citrus trees. 2718.
- Page, E. J. Plant variability. \*657, 1021, 1022, 1023.
- Palm, B. J. New slime-mold. 729, \*782.
- Pammel, L. H. Effect of winter on Iowa shrubs. \*2046.—Extermination of barberry. 2719.—Literature on fungous diseases. \*2720.
- Pampanini, R. Flora of Cirenaica. \*3012.
- Pando y Armand, Luis de. *Ricinus* culture in arid Spain. 1393.
- Paravancini, E. *Favolus* injuring nut trees in Switzerland. 414.
- Park, A. D. Rural income-tax return, New Zealand. 1849.
- Parker, R. C. Testing seed potatoes in New York. 2721.
- Parnell, R., and others. Forest administration in India, 1917-1918. 2047.
- Parrott, P. J., H. E. Hodgkiss, and F. Z. Hartzell. Rose aphid on apples. \*693, 783.
- Parsons, H. T. (McCollum, E. V., N. Simmons, and H. T. Parsons) 2854.
- Partridge, W. *Cinchona* bark assaying. 1727.
- Pascher, A. Reduction division and Mendelian segregation. 1024.—Flagellates and Rhizopods. (Rev. by Hirsch, E.) 1581.—Rev. of Schouten, S. L. 70.
- Pater, B. Medicinal plant culture at Kolosvár. 2722.

- Patouillard, N. *Ustulina vulgaris*. 112.—*Madagascar fungi*. 370.
- Patten, H. E., and A. J. Johnson. Hydrogen-ion concentration and gelatin liquification. 2873.
- Paul, Mabel S. (Johns, C. O., A. J. Finks, and Mabel S. Paul) 129.
- Pavarino, G. L. Bacterial disease of orchids. 2724.
- Pavarino, L., and M. Turconi. Wilt of *Cap-sicum annum*. 2723.
- Paynter, L. Black-spot of pear in New Zealand. 1188.
- Pearson, G. A. Soil nitrification and forests. \*1273.—*Swedish forestry*. 959.—*Rev. of Hesselman*. 564.
- Pearson, R. S. *Rev. of G. B. Sudworth*. 574.
- Pearson, W. H. *Hepatics of Wales*. 1586, 1587.—*Hepatics of Yorkshire, England*. 1588.
- Peck, E. C. (Folm, O., and E. C. Peck) 2844.
- Peirce, G. J. Botany after the war. 1417.—(Gray, John, and G. J. Peirce) 436, 1959.
- Pellen, C. (Bateson, W., and C. Pellen) 2157.
- Pellegrin, F. *Dioscoreaceae of Paraguay*. 1317.
- Peltier, G. L. *Carnation stem-rot*. 2726.—*Snapdragon rust in U. S. A.* 2725.
- Pember, F. R. (Hartwell, B. L., and F. R. Pember) 139.—(Hartwell, F. R. Pember, and Howard) 2922.
- Pendleton, R. L. Soil classification. 2949.
- Pennell, F. W. *Plants of Southern U. S. A.* 3014.—*Scrophulariaceae of local flora, II.* 3013.
- Percy, E. *Filberts in Oregon*. 2354.—*Productivity of prunes in Oregon*. 2533.
- Perkins, Jos. A. Testing activity of antiseptics. 415.
- Perret, C. (Blanchard, E., and C. Perret) 2573, 2574.
- Pescott, E. E. *Australian ornamentals*. \*1772, 2279.
- Peters, J. G. Forest conservation in southern U. S. A. 1463.
- Petri, L. Galls of *Capparis* by *Discella*. 1189.—*Ink-disease (Blepharospora) of chestnut*. 2728.
- Petherbridge, F. R. *Potato spraying*. 113.
- Pethybridge, G. H. Disease of *Thuya* seedlings in Ireland. 1652, \*1592.—*Potato diseases in Ireland*. \*1771.
- Petri, L. *Grape disease in Italy*. 1190.
- Petrini, Sven. Growth measurement for standing trees. 2048.
- Pettit, R. H. (Eustace, H. J., and R. H. Pettit) 2332, 2632.
- Peyronel, B. Second contribution on fungi of San Martino. 371.
- Pfeiffer, Th. *Dicyanodiamide on plant growth*. (Rev. by Volhard) 1792, 2876.
- Phillips, E. P. *Pollination of Cyanella capensis*. 2441.
- Phillips, M. *Canada balsam oil*. 1729.—*Oil from Monarda punctata*. 1728.
- Phillips, R. W. *Fern prethallia*. 1113, \*1241.
- Phillips, V. (Sherman, H. C., J. C. Winters, and V. Phillips) 2875.
- Pickering, S. Soil toxins from grass, etc. 1773, \*2891.
- Pickett, B. S. Soil treatment of apple orchards. \*863, 686.
- Piedallu, A. *Sorghum in France*. 907. *Sweet sorghums*. 200.
- Pierre, H. *Russula olivacea*. 372.
- Pierre, M. H. Rubefaction of face due to eating *Coprinus atramentarius*. 373.
- Pile, Eleanore. (Hulton-Frankel, Flor., Helene Barber, and Eleanore Pile) 440.
- Pillsbury, J. P. Report North Carolina Divisions of Horticulture, 1919. 2356.
- Piper, C. V. *New Pacific Coast plants, U. S. A.* 1833.
- Pitt, F. (Haviland, M. D., and F. Pitt) 2137.
- Plaisance, G. P. (Dox, A. W., and Plaisance) 1719.
- Plate, L. Inheritance in mice. 658.
- Platon, B. (Akerman, A., H. Johnsson, and B. Platon) 1380, 2906.
- Pleijel, C. *New Valeriana hybrid*. 1834.
- Plenderleith, J. W. Alkaloids precipitated by liquorice. 839.
- Blough, H. H. Arrangement of genes. 659.
- Plymen, F. J., and D. V. Bol. Nitrogenous manures for black cotton soil of India. 2938.
- Poisson, J. *Paulownia imperialis in France*. 1549.
- Polak's Frutal Works. *Peppermint in Holland*. 1688, \*2390.
- Pole Evans, I. B. Report, Botany Division, South Africa, 1917-18. 2729.
- Pole Evans, I. B., and A. M. Bottomley. *Diplocystis and Broomeia*. 2496.
- Pole Evans, I. B., and K. Lansdell. Weeds of South Africa, *Opuntia imbricata*. \*1394.—*Weeds of South Africa, Alternanthera*. \*1395.—*Weeds of South Africa, Xanthium*. \*1396.—*Weeds of South Africa, Opuntia aurantica*. \*1397.

- Pollock, J. B. Longevity of *Sclerotinia* in soil. 784.
- Pomeroy, C. S. Bud variation in sugar-cane. 1025.
- Pool, R. J. Elementary botanical teaching. 1418.
- Popenoe, P., and R. H. Johnson. Applied eugenics. 279.
- Popenoe, W. Avocado in Guatemala. 334.—Mexican avocados. 2357.—Tropical fruits at Oaxaca, Mexico. 2358.
- Popp, M. Germination of beet-seed. 2899.—Hydrogen-ion concentration and natural immunity. \*2892.—Invertase solutions from yeasts. 2880.—Rev. by Metge. 1799.—Rev. of Wagner, R. J. 1668.
- Porold, A. I. Viticulture in Union of South Africa. \*2355.
- Porter, W. C. Huntington's chorea. \*280, 2179.
- Porter, W. R. (Waldron, L. R., and W. R. Porter) 192.
- Porter, W. R., and O. A. Stevens. North Dakota weeds. 187.
- Posternak, S. Phospho-organic salts in reserve of green plants. 131, \*1730.
- Pothybridge, G. H. Potato diseases in Ireland. 2727.
- Pott, Mrs. R. Warburgia from Transvaal. 155.
- Potts, G. Pepper tree (*Schinus*) and hay fever in South Africa. \*1850.
- Powers, F. B. Odorous principles of plants. 2817.
- Power, F. B., and V. K. Chestnut. Caffein in *Ilex vomitoria*. 1731, \*1749.
- Powers, W. L. Improvement of marsh land in Oregon. 1774.
- Praeger, R. L. *Sedum*. 156.
- Prain, D. *Chrozophora*. 157.—*Meconopsis compta*. 158.
- Pratt, J. H., and H. Morrison. American *digitalis*. 2818.
- Preiser, S. A., and C. B. Davenport. Von Recklinghausen's disease. 281.
- Prendergast, H. J. (McClendon, J. F., and H. J. Prendergast) 2870.
- Prescott, S. C. Drying vegetables. 478.
- Prescott, E. E. Ornamental plants of Australia. 687.
- Preston, C. F. Potato varieties in Pennsylvania. \*1880.
- Pribram, Hugo. Inheritance of diabetic constitution. (Rev. by Siemens) 1506.
- Pringsheim, H. Chemical adaptations of microorganisms. 1755.
- Prizer, J. A. Fertilization of citrus groves in U. S. A. 2359.
- Probasco, C. B. Potato marketing. 914.
- Prunet, A. Vine black-rot control in France. \*2730.
- Pucci, Angiolo. Single roses in Italy. 1017.
- Pugsley, H. W. British Euphrasias. 3015.
- Pulling, H. E. Rev. of C. F. Korstian. 554.
- Punnett, R. C. Inheritance of leg-feathering in poultry. (Rev. by Kuiper) 1488.
- Purvis, J. E. Potash from bracken in England. 479, \*804.—Sugar from saw-dust. 214, \*821.
- Pusch, G. Inbreeding live stock. 1026.
- Putnam, J. J. (Hills, T. L., and J. J. Putnam) 456.
- R., A. B., Elements of botany. 1898.
- R., J. K. Rev. of Bailey. \*2301.
- Rabaud, Etienne. Evolution and sexuality. 660.
- Ragionieri, Attilio. Poinsettia culture in Italy. 1080.
- Raiziss, G. W. (Schamberg, J. F., J. A. Kolmer, G. W. Raiziss, and M. E. Trist)
- Ramaley, F. Dune vegetation at San Francisco. 1973.—Ecology of sedges in Colorado. 1974.—Xerophytic grasslands in Colorado. 1975.
- Ramirez, Roman. Disease (*Thielaviopsis*) of sugar-cane in Mexico. 2731.
- Rands, R. D. Brown bast disease of *Hevea brasiliensis*. 2732.
- Rankin, W. H. Rev. of Foster, J. H. 536.
- Ranninger, R. Culture of poppies. (Rev. by Muller) 1390.
- Ranoievitch, N. Fungi in France. 1138.
- Rant, A. Cinchona root-fungus. 1191.
- Rapp, S. Mosses from Sanford, Florida. 2479.
- Rasmuson, H. Genetics of flower-color in *Tropaeolum*. 2180.—Hybridization experiments with *Chelidonium*, etc. \*1027.—Origin of red sugar-beets. 2182.—A *Petunia* cross. 2181.
- Ravaz, L. Downy-mildew of grapes in France. \*2734.—Grape-mildew control in France. \*2733.
- Ravn, F. K. (Ferdinandson, Mrs. Rostrup, and F. K. R. Ravn) 103.
- Rebmann. Dying of walnuts. (Rev. by Matouschek) 2695.



- Record, S. J. Tier-like structure of certain dicotyledonous woods. 2442, 2049.
- Record, S. J. Mahogany and substitutes. 566.
- Recknagel, A. B. Timber census, north-eastern U. S. A. 565.
- Reddick, D., and V. B. Stewart. Mosaic disease of beans. 2735.
- Reed, G. M. Diseases of trees, etc., in Brooklyn. \*567, 735.
- Reed, H. S. Flowering and fruiting of lemons. 2360.—Growth and variability in *Helianthus*. \*661, 1028.
- Reed, H. S., and R. H. Holland. Growth rate in *Helianthus*. 1029, 1244.
- Regan, W. S. White pine blister-rust control. 416, \*454.
- Rehfofs, L. Stomata. (Rev. by Coulter) 2422.
- Reid, F. R. (Skinner, J. J., and F. R. Reid) 186.
- Reimer, F. C. Pear blight disinfectant. 2361, \*2736.
- Reimers, J. H. W. Th. Origin, etc., of cattle races. 1501.
- Reinking, O. A. Plant disease in Luzon, Philippine Islands. 2737.
- Remlinger, P. Immunity to rabies. 61.
- Renier, A. New plants of the Belgian coal measures. 1614.
- Renner, O. Genetical studies in *Oenothera*. \*63, \*62.—Rev. of Baur. \*2183.—Rev. of Haecker. \*2184.
- Resvoll-Holmsen, H. Scotch pine in Norway. 960.
- Reyes, A. L. Foliage development in vegetables. 1081.
- Rhoads, A. S. Biology of *Polyporus pargamensis*. 2497, \*2738.
- Richardson, A. E. V. American and Australian agriculture. 162.
- Richardson, H. W. Minnesota forest fires, 1918. \*568.
- Richter. Rev. of Bartos, W. 1653.—Rev. of Fallada. \*1398.—Rev. of Greisenegger, I. K. \*1789.—Rev. of Seissl, J. 1777.
- Ridgway, C. S. Chemical photometer for plant physiological research. 2910.
- Ridsdale, P. S. The war and British forests. 1464.
- Riehl, E. A. Chestnut culture in U. S. A. 335.
- Rietz, see Du Rietz.
- Rigg, G. B. Early stages in bog succession. 1976.
- Riley, W. J. Rhus galls in Chippewa medicine. 431.
- Ritzema, B. J. Bordeaux mixture on potato. 1654, \*1552, \*1759.—Tree pruning in Norway. \*961, 1655, \*1550.—Rev. of Heidema, J. \*1399.
- Roark, R. C. Plants used as insecticides. 1737.
- Robbins, W. W., and B. Boyack. Weed control in Colorado. 1400.
- Roberts, H. F. Darwin and hybridization. 2185.—Founders of breeding. \*65, \*283, \*1030.—Quantitative measurements in color crosses. \*64, 282.—Von Gärtner and hybridization. 2186.
- Roberts, J. W., and L. Pierce. Cherry leaf-spot. \*1192.
- Robinson, R. T. (Swingle, W. T., and Robinson) 1519.
- Robson, R. Weed control in England (*Lepidium* and *Sinapis*). 1881.
- Rock, J. F. *Cyrtandrea Hawaienses*, microcaryces. 3016.—*Cyrtandra* in Hawaii. 159.
- Rockwood, E. W. Neutral salts and ptyalin. \*1233.
- Rodda, T. E. Brown-rot of fruit-trees in New Zealand. 2739.—Red-mite and black-spot control in New Zealand. 2740.
- Rolet, A. Care of gardening equipment. 1551.
- Rolet, S. Perfume plants. (Rev. by Lindet) 3046.
- Rolfe, R. A. *Bulbophyllum robustum*. 2281.—*Calanthe tricarinata*. \*1084.—*Calanthe tricarinata*. 2285.—*Goveria lagenophora*. 2282.—*Isabelia virginalis*. 2280.—*Liparis macracantha*. \*1083.—*Liparis macracantha*. 2283.—Mahoganies in West Indies. 2050.—New Orchids. 160.—*Wittia Panamensis*. \*1082.—*Wittia Panamensis*. 2284.
- Romell, Lars-Gunnar. Natural graft of spruce upon pine. 2443.
- Rose, D. H. Blister-canker of apple trees. \*2741.
- Rose, J. N. (Britton, N. L., and Rose) 1824.
- Rosen, H. H. Bacterial disease of *Setaria*. 1656.
- Rosen, H. R. Root-rot of maize in Arkansas. 2742.
- Rosendahl, C. O. Floral variations in *Erythronium*. 340.
- Rosendahl, H. V. *Aspleniums* of northern Europe. 1285.

- Rosenberg, O. Chromosome number, etc., in *Crepis*. 284, \*66.
- Rostrup, Mrs. (Ferdinandsen, C. S., Mrs. Rostrup, and F. K. Ravn) 103.
- Roth, R. *Yucca*. \*2286.
- Rowlee, W. W. Synopsis of *Ochroma*. \*1114. 1835, \*569.
- Royal Institute of Public Health. Testing of disinfectants. \*2743.
- Ruankiaer, C. Species in light of genetical investigations. (Rev. by Matouschek) 1495.
- Ruby, Jos. Morphological and biological studies on olive. (Rev. by Bonnier) 2312.
- Rudau, B. Wood-destroying fungi. (Rev. by Matouschek) 2696.
- Rüdin, E. Hereditary abnormality of little finger. (Rev. by Siemens) 1508.
- Rümker, K. von. Breeding oil plants. \*67.
- Rundles, J. C. (Drake, J. A., and J. C. Rundles) 183.
- Rusby, H. H. Distribution of crude drugs. 2800.—New York botanical Garden. 1924.
- Russell, A. M. *Floerkea proserpinacoides* and allies. 2444.
- Russell, E. S. Origin of characters of plants and animals. \*68.
- Russell, G. A. Germination of camphor seed. 2900.
- Rutgers, A. A. L. Bark diseases of *Hevea* in Federated Malay States. 2744.—Combating bark disease of *Hevea*. 2745.—Selection of thinning of *Hevea*. 2051.
- Ruthven, A. G. Wild-life reservations in Michigan. 1851.
- Ryan, M. (Kendall, A. I., A. A. Day, A. W. Walker, and M. Ryan) 2489.
- Rydberg, P. A. Key to Rocky Mountain flora. 161.
- S., A. Beauty in French forestry. 508.
- Safford, W. E. Dahlias from Mexico and Central America. 1836.
- Sage, E. J. Plant variability. \*662.
- Salter, R. C. Growth of *Bacillus coli*. \*825.
- Sahni, B. *Clepsydrapsis*. 94.
- Sakamura, Tetsu. Chromosome numbers, etc., in *Triticum*. \*69, 285.
- Salisbury, E. J. Scrub in Hertfordshire, England. 1977.
- Sallmon, W. H. California Avocado Association. 2362.
- Salmon, C. E. Botany of Norfolk, England. 3017.
- Salmon, C. E. *Papaver* hybrid, \*286, 2187.—*Stachys* hybrid. \*287, 2188.
- Salmon, E. A. *Humulus* resistant to *Sphaerotheca*. \*288.—Mildew-resistant hop. 2189.
- Salmon, E. S. (Eyre, J. V., E. S. Salmon, L. K. Wormald) 2633.
- Salmon, E. S., and H. Wormald. Potato spraying in England. 2746, 2747.
- Sampai, A. J. de. *Ipomoea* of Brazil. 1318.
- Samann, K. *Strophanthus Kombe* seeds. 2807.
- Sampson, A. W. Forest range management in U. S. A. 2052, \*1925.—Plant succession on cattle ranges in Utah, etc. \*1401.—Rev. of Toumey, J. W. 579, 580.
- Sampson, H. C. Abscission in *Coleus*. (Rev. by Yamagudi) 2863.
- Sanborn, C. B. Certified seed in Oklahoma. \*917, \*1193.
- Sand, K. Experimental hermaphroditism. \*289, 1031.
- Sanders, J. G. Potato disease in Pennsylvania. 114.
- Sands, E. E. *Endothia* pigments. 132.
- Sands, W. N. Cotton diseases and *Sterculia* in Barbados. 932.—Cotton diseases and *Sterculia* in St. Vincent. \*1344.
- Sanford, F. H. Control of blowing sand. 2053.
- Sargent, C. S. North American trees, IV. 1837.
- Sargent, P. Variability in plants. 1032.
- Saunders, A. P. Peony hybrids. 1033.
- Sauvageau, C. Ecology of marine algae. 1582.
- Savage, W. G. Disinfection. \*2748.
- Savastano, L. Citrus root rot in Italy. 1194.
- Sayre, L. E., and G. N. Watson. Alkaloids of *Gelsemium*. 2819.
- Sayre, J. D. Transpiration of *Verbascum thapsus* and *Nicotiana*. 1741.—Conditions controlling transpiration in *Verbascum thapsus* and *Nicotiana*. 1742.
- Scalia, G. *Ascochyta*. \*2749.
- Schacke, M. A. Chromosome sex difference in *Sphaerocarpos*. \*663, 1034.
- Schadelin, W. Practical selection in forestry. 2054.
- Schaefer, E. G. (Sievers, F. J., and E. G. Schaefer) 1883.
- Schaefer, H. H. *Cinchona* alkaloid assays. 1732.

- Schaeffer, G. Vitamines. 133.
- Schaffner, J. H. Catalog of Ohio plants. 1918. 1812.—Dichotomy in *Vernonia*. 1574, \*1503.—Dioecism in *Morus* and *Salix*. 1575, \*1501.—Sex reversal in hemp. 1502.
- Schallmayer, W. Heredity and selection. (Rev. by Frets) 1481.
- Schamberg, J. F., J. A. Kolmer, G. W. Raizias, and Mary E. Trist. Sodium oxymercury-ortho-nitrophenolate as disinfectant. 830, 2750.
- Schander, R. Potato diseases in agronomy, 1917. 2751.
- Schatzlein. Rev. of Sidenius, E. 1790, \*1402.
- Schenk, P. J. (Van der Broek and Schenk) 2779.
- Scherffius, W. H. Cotton in South Africa. \*1403.
- Shick, C. Cactus culture in 1918. \*3018.
- Schiffner, V. Dalmatian hepatics. 1589.
- Schlechter, R. Ericaceae of German New Guinea. 3019.—New *Thismia* from Papuaia, New Guinea. 3020.—(Gilg, E., and R. Schlechter) 2979.
- Schmidt, Elsa. Hydrastin and berberin from *Hydrastis*. 432.
- Schmidt, J. Clones (*Humulus*), XI. 2192.—Individual potency. 2190.—Racial studies in fishes, II. \*664, 2191.
- Schmidt, J. M., and F. W. Heyl. Digitalis leaf-extracts. 2820.
- Schneider, C. Notes on North American willows, III. 1838.—Notes on North American willows, IV. 1839.
- Schoeners, T. H. C. Tomato canker in Holland. 2754.
- Schoevers, T. A. C. Orchard disease control in Holland. 1658, \*1553.—New plant diseases in Holland. 1657.—Rolling of tomato leaves. 1659, \*2919.—Spinach root disease. 115.—Tomato nematode. 1195.
- Schouten, S. L. Rev. of Pascher, A. \*70.
- Schouten-Icken, W. S. J., and R. W. Tuinzing. Iodometric estimation of nitrogen in fertilizer. 2874.
- Schoyen, T. H. Insects and diseases of Norwegian crops 1917. 2752.
- Schribaux, F. Late sowing of sugar-beets in Spain. 1404.
- Schröter, C. Flora of Lower Engadine National Park. 1978.
- Schultz, E. S., Donald Folsom, F. M. Hildebrandt, and L. A. Hawkins. Mosaic disease of potato. 2755.
- Schultz, W. Somatically activated color factors in Russian hares. 1504.
- Schultz, O. E. Cruciferae of Papuaia. 3021.
- Schuppli, O. (Willstätter, R. O. Schuppli, and E. W. Meyer) 2862.
- Schwab, W. G. Virginia forests. 215, \*570, \*571.
- Schwartz, M. Slug injury in northern France, 1916. 2753.
- Schwerin, F. Blister rust of *Pinus austriaca*. (Rev. by Matouschek) 2697.
- Seofield, C. S. T. H. Kearney, C. J. Brand, O. F. Cook, and W. T. Swingle. American Egyptian cotton. 199.
- Scott, D. H. Mesoxylon. \*93, 95.
- Scott, L. H. Varieties of Satsuma orange. 2363.
- Seoville, W. L. Scammony and its substitutes. 1707.
- Seaton, E. Prunes in northwest U. S. A. 2364.
- Seissl, J. Phosphoric acid in ignited soils. (Rev. by Richter) 1777.
- Seiler, J. Sex determination and chromosomes in Lepidoptera. 1506.—Rev. of Doncaster. \*2193.—Rev. of Haase-Bessell. \*2195.—Rev. of Federly. \*2194.—Rev. of Harrison and Doncaster. \*2196.
- Senior, J. K. (Northrop, J. H., L. H. Ashe, and J. K. Senior) 2890.
- Serre, Paul. Uses of grape seeds in California. 1097.
- Severance, George. Washington [State] work on botany, chemistry, horticulture, etc., 1918. 1882, \*2958, \*2757.
- Severin, H. H. P. Beet leafhopper (*Entettix*) in California. 2758.
- Seward, A. C. Antarctic fossil plants. (Rev. by Carpentier) 2507.—Fossil plants, IV. 2517.—Paleobotany in Great Britain. 1615.—(Rev. of Chamberlain, C. J.) 1140.
- Sewell, M. C. Tillage; a review of the literature. 1883, \*2957.
- Shamel, A. D. Furrow-manuring of citrus trees in California. \*2365.
- Shannon, C. W. (Stevens, G. W., and C. W. Shannon) 1981.
- Shapovalov, M. Potential potato parasites. 2759.
- Sharp, L. T., and D. R. Hoagland. Acid soils. 2925.—(Hoagland, D. R., and L. T. Sharp) 2920.
- Sharp, P. F. (McClendon, J. P., and P. F. Sharp) 2853.



- Sharples, A. Laticiferous system of Hevea. \*786.
- Shaw, Ellen E. Children's gardens in Brooklyn. \*501.
- Shaw-Scott, G. Hops in South Africa. \*1405.
- Shearer, C. Electrical conductivity of bacterial cells. 801.
- Shephera, W. P. Anaheim [California] Orange and Lemon Assoc. packing house. 2366.
- Shepherd, J. F. Spraying-tests in New Zealand. 2760.
- Sheppard, W. J. Hermaphrodite bees. \*290. 1035.
- Sherff, E. E. (Millspaugh, C. F., and E. E. Sherff) 3000.
- Sherman, H. C., Florence Walker, and Mary L. Caldwell. Enzyme action on different starches. 1234.
- Sherman, H. C., A. W. Thomas, and M. E. Baldwin. Hydrogen ion and amylase activity. \*1235.
- Sherman, H. C., J. C. Winters, and V. Phillips. Oat protein in human nutrition. 2875.
- Sheward, T. Breeding fruits and flowers. 2197, \*2368.—Fruit thinning. \*2369.—Growing and pruning berry bushes. \*2367.—Propagation by cutting perennials. \*2288.—Sowing seed for next year. \*2289.—Summer pruning. \*2370.
- Sheward, T. J. Propagation by cutting, bedding plants. \*2287.
- Shibata, K. Anthocyanins. \*1227.
- Shimek, B. Iowa's natural parks. 3056, 3055.
- Shinbo, Ippo. Japanese plant gall. \*787, \*840.
- Shinn, H. B. Rev. of Hodge and Dawson. \*1926.
- Shreve, E. B. Water-absorption by gelatin. 802.
- Shull, A. F. Environment and heredity. 1036.—(Stoll, N. R., and Shull) 1517.
- Shutt, F. T. Soil alkali and crops. 1775.
- Shutt, F. T., and E. A. Smith. Alkali soils in Canada. 1290.
- Sibbern, G. A trip to France. 2055.
- Sidenius, E. Fertilizer experiments on tobacco. (Rev. by Schatzlein) 1402, 1790.
- Siecke, E. O. Texas forestry. 2056.
- Siemens, H. W. Rev. of Pribram, H. \*1506.—Rev. of Rüdén, Ernst. \*1507.—Rev. of Wegelin, C. \*1508.
- Sievers, F. J., and E. G. Schafer. Sugar-beets under irrigation in Washington. 1884.
- Silberschmidt, W. Disinfection and disinfectants. \*2761.
- Silveira, Alvaro da. Ciposia of Brazil. 1319.
- Simbo, I. Japanese plant-galls. 2895.—Plant-galls in Japan. \*1576.
- Simmermacher, W. (Pfeiffer, Th., and W. Simmermacher) 1792, 2876.
- Simmons, N. (McCollum, E. V., N. Simmons, and H. T. Parsons) 2854.
- Singh, T. M. Toxicity of "alkali" salts. \*831, 864.
- Sipkes, C. Dutch orchids. 3022.
- Sirks, M. J. Rev. of Hagedoorn, A. L., and A. C. \*1509.—Rev. of Kajanus, B., and S. O. Berg. \*1510.—Rev. of Morgan, T. H. \*1511.—Rev. of Tjebbes, K. \*1512.—Rev. of Zeigler, H. E. \*1513.
- Skan, S. A. Ipomoea dasysperma. \*86, 2290.—Ipomoea pes-tigridis. \*1085 2291.
- Skinner, J. J., and C. F. Noll. Pasture fertilization. 1791.
- Skinner, J. J., and F. R. Reid. Effect of phosphates and alpha-crotonic-acid on plants. \*186, \*865, 437.
- Skvortzow, B. W. Agriculture, botany, and zoology of China. 2462, \*2057, \*2797, \*1885.
- Slocum, R. R. Varieties of chickens, III. 2198.
- Small, Jas. \*1115, Evolution of Compositae. 1142.—Origin of Compositae; distribution. 1979.—Triticum repens and adulteration. 2810.
- Small, W. Report, botanist, Uganda, 1917–1918. 2762.
- Small, Mrs. W. B. Natural park site in Iowa. 3057.
- Smit, B. T. Bat guano analyses. 2942.
- Smith, A. Berry-plants as ornamentals. 2292.—Planting fruit-trees. \*2371.—Treatment of shrubs. \*2293.
- Smith, A. L. Hyphomycetes and timber decay. 2763.
- Smith, B. (Cantrill, T. C., and B. Smith) 2504.
- Smith, C. P. Rotation of gelatin. \*1228.
- Smith, E. F. Proliferation in Begonia. 1245.
- Smith, F. H. Pulpwood consumption in U. S. A. 13.
- Smith, F. H., and A. H. Pierson. Lumber production in U. S. A. 14.
- Smith, G. M. Algae of Wisconsin. 698.

- Smith, H. H. London cocoa-market. 2400, 2401, 2402, 2403, 2404, 2405.
- Smith, J. W. Weather and potato yield in U. S. A. 1886, \*2764.
- Smith, R. C. Maize ear-worm (*Chloridea*). 1660.
- Smith, R. E., E. O. Essig, and G. P. Gray. Handbook of plant diseases, etc. 116.
- Snyder, H. Wheat-breeding. \*665, 2199.
- Snyder, R. S., and R. S. Porter. Soil nitrogen. 866.
- So, M., and Y. Imai. Heredity in radishes. 1515.
- Someren, see Van Someren.
- Soper, E. K., H. F. Bergman, and others. Peat in Minnesota. 1980.
- Soueges, R. Embryology of *Capsella*. 2445.
- Soulier-Valvert, F. Coconut possibilities. 2372.
- Soursac, L. Plum diseases in France. \*2765.
- Southworth, W. Alfalfa twinning. 1037, \*291.—Maize for fodder in Canada. 1406.
- Spafford, R. R. Farm types in Nebraska. 1407.
- Spafford, W. T. Wheat diseases in Australia. 1196.
- Sparhawk, W. N. Comment on Terry's article. 1416.
- Spaulding, P. White pine blister-rust control. 417.
- Spegazzini, C. Laboulbeniales of Argentina. 374.
- Spinks, G. T. Tomato diseases. 117.
- Spitzer, G., R. H. Carr, and W. F. Eppler. Chemistry of soft maize. 1752.
- Spoehr, H. A. Cactus carbohydrate economy. 1744.—(MacDougal, D. T., and H. A. Spoehr) 2889.
- Sporri, Ed. State forests in Switzerland. 572.
- Spratt, E. R. Nodules of Leguminosae. 1139.
- Staff, Otto. *Proteo longifolia*. \*87, 2294.
- Stakman, E. C. Banish barberry. \*788, 789.—Black-stem rust and barberry. 2756.—(Hayes, H. K., and E. C. Stakman) \*37, 107, 163, 2138, 2766.
- Stakman, E. C., H. K. Hayes, O. S. Aamodt, and J. G. Leach. Controlling flax-wilt by seed selection. \*2200, 2766.
- Standley, P. C. New *Nyctelea* name. 3023.
- Stapf, O. Flora of tropical Africa. 1840.
- Stapledon, R. G. Temporary ley in Wales. 1888.
- Stapledon, R. G., and M. Adams. Effect of drying on germination of cereals. 1889, \*2901.
- Stapledon, R. G., and H. Loveday. "Shelled" grain in oats. 1887.
- Stark, P. Floral variations of Paris. 2201.—Rev. of Lundegardt. 2897.—Rev. of Vochting. 2896.
- Stead, A. Sulphur requirements of crops. \*1889.
- Stebbing, E. P. Forestry in Britain. (Rev. by Boulger) 2001.
- Stecher. German beechnut harvest of 1918. 573.
- Steckbeck, D. W. Histology and irritability of sensitive plants. \*2446.
- Steenbock, H. (Hart, E. B., and H. Steenbock) 2867.
- Steenhauer, A. J. Pharmacognosy of *Polygonum*. 2308.
- Steil, W. N. Secondary prothallia of *Nephrodium*. 2447.
- Stein, E. Rev. of de Vries, H. \*1516.
- Steinöl, A. T. Marketing potatoes. 480.
- Steinmetz, F. H. (Arny, A. C., and F. H. Steinmetz) 166.
- Stephenson, R. E. Soil organic matter. 867.
- Sterling, E. A. Forest policy in U. S. A. 2058.
- Sternon, F. Dahlia leaf-spot in France. 1197.
- Stevens, F. L. Apple canker due to *Cytospora*. 790.—Rhubarb diseases in Illinois. 792.
- Stevens, F. L., and E. Y. True. Black spot of onion sets. 791.
- Stevens, G. W., and C. W. Shannon. Plant life in Oklahoma. 1981.
- Stevens, N. E., and F. W. Morse. Cranberry end-rot. 1661.
- Stevens, O. A. (Porter, W. R., and O. A. Stevens) 187.
- Stevenson, J. A. Porto Rican fungi. \*375.
- Stewart, A. Ambrosia pathology. 118.
- Stewart, E. G. Mucilage formation in cacti. 803.
- Stewart, F. C. Plant diseases in New York. 2767.—Potato culture. 481.
- Stewart, George. Small Grains in Utah. 174.
- Stewart, G. R. Season and crop growth as modifying soil extract. (Anon. rev.) 2951.
- Stewart, R., and F. A. Wyatt. Fertilizer value of limestones. 2926.

- Stewart, V. B. (Reddick, D., and V. B. Stewart) 2735.
- Stewart, Wm. Forest plantation in Scotland. 962.
- Stift, Anton. Beet diseases in Austria, 1917. 2768.
- Stiles, W., and I. Jørgensen. Plasmolysis in plant tissue; reply to Thoday. 434.
- Stoll, N. R., and A. F. Shull. Sex determination in white fly (Alourodes). 1517.
- Stout, A. B. Bud variation. 292.
- Intersexes in *Plantago*. 1518.—Rev. of Lehmann, E.
- Stranak, F. Bacterial disease of bundles of potato tuber. 1662.
- Strell, M. Waste from water clarification as fertilizer. (Rev. by Volhardt) 1778.
- Stuart, R. Y. Timber scouting in the Pyrenees. 1466.
- Stuart, W. Potatoes in Florida. \*868, 482.
- Sturtevant, A. H. (Rev. by Lotsy) 1494.—(Mohr, O. L., and A. H. Sturtevant) 2175.
- Sturtevant, A. H., C. B. Bridges, and T. H. Morgan. Spatial relations of genes. 293, 666.
- Styger, Joseph. Anatomy of umbelliferous fruits. 1697, 1698, \*2448, \*2449.
- Sudre, H. Hieracium in Europe. 1320.
- Sudworth, G. B. Rev. of Pearson, R. S. \*574.
- Summer, F. B. Adaptation and purposefulness. 2202, 2518.—Adaptation in evolution. 1144.
- Summer, J. B. Globulins in Canavalia. \*177.
- Surr, Gordon. Pruning Washington navel oranges in California. 2373.
- Sutton, I. (Bateson, W., and I. Sutton) 2082.
- Svedelius, N. E. Alternation of generations. 2203.
- Swadi, T. S. Hardness of crude sugar. 2929.
- Swingle, W. T. (Scofield, C. S., T. H. Kearney, C. J. Brand, O. F. Cook, and W. T. Swingle) 199.
- Swingle, W. T., and R. T. Robinson. Tangelos in Florida. 1519.
- Sylvén, N. *Juniperus communis* variant in Sweden. 2204.
- T., W. Variability in plants, 975.
- Takeda, H. Flora of eastern Asia. 1321.
- Talmage, R. H. Potato-growing on Long Island, New York. \*1891.
- Tammes, T. Flax breeding in Holland. 1519.—Rev. of Frets. \*1520.
- Tanaka, T. Japanese fungi. \*793, 730, \*794, 731.
- Tanner, F. W., and R. S. Funk. Boric acid as disinfectant. 2769.
- Tansley, A. G. Botanical teaching. 923.
- Taubenhaus, J. J. Onion pink root. 1663, \*1593.
- Taylor, A. D. Planting seasons for ornamental plants. 1554.
- Taylor, E. P. Potato-seed certification in U. S. A. \*2770, \*1892.
- Taylor, H. W. Cotton culture in Rhodesia. \*1408.—Tobacco culture in Rhodesia. \*1409.—Tobacco seed-beds in South Africa. \*1893.
- Taylor, Mrs. H. J. Parks and conservation in Iowa. 3058.
- Taylor, N. Winter killing of trees in Brooklyn. \*827, 575.
- Taylor, W. H. *Ailanthus* for pulp in New Zealand. 576.—Cape Gooseberry, *Physalis*, in New Zealand. 1088.—Pollination. 911.—Propagation methods. 1086.—Seed potatoes in New Zealand. 873.—Shelterbelts in New Zealand. 577, \*1087.—Silver-leaf of fruit trees in New Zealand. 1198.
- Taylor, W. L. Replanting forests. 963.
- Taylor, W. R. Chemical stimulation and tissue proliferation in chestnut. 2450.
- Tedin, H. Plant improvement. 667.
- Temple, J. C. Ammonification tests on soils. 1274.
- Tengwall, T. A. (Du Rietz, G. E., C. E. Fries, and T. A. Tengwall) 1955.
- Ten Houte De Lange, W. G., Jr. Rubber production curves. 2060.
- Terry, E. I. Formula for estimating timber. 1467.—(Criticism by Sparhawk) 1465.
- Terry, J. R. Wingless Wyandotte fowl. \*294, 1038.
- Thelen, Rolf. Aerial photography and forestry in U. S. A. 2059.
- Thesloff, A. (Lundborg, H.) 648.
- Thomas, C. C. Seed disinfection by formaldehyde. 418.
- Thomas, E. E. Frozen lemons and oranges for by-products. 2374, \*2857.
- Thomas, R. "Tinnevellies" cotton in India. 1410.
- Thompson, J. A. Rev. of Newman. 668.
- Thompson, J. W. Goat breeding. \*295, 1039



- Thompson, W. P. (Bailey, I. W., and W. P. Thompson) 2425
- Thouars, see DeThouars.
- Tieghem, see Van Tieghem.
- Tielemann, E. T. (Krugenberg, B., and E. T. Tielemann) 3043
- Tingle, A. (Babington, F. W., Tingle, and C. E. Watson) 1712
- Tireman, H. Coorg (India) forestry, 1918. 2061.
- Tischler, G. Heredity in Phragmites. 1040.
- Tisdale, W. H. Report, pathology, etc., Div., North Carolina Agric. Exp. Sta., 1919. 2771.
- Tison, A. Suspensor of *Trapa natans*. 2451.
- Tjebbes, K., and Kooiman, H. N. Heredity in beans. 1041.
- Tjebbes, K. (Rev. by Sirks) 1513
- Todd, P. H. Cultivation of aromatic plants in U. S. A. 1894, \*2798.
- Tokugawa, Y. Disappearance of astringency in persimmon. \*1555, 2881.
- Tolaas, A. G. (Bisby, G. R., and A. G. Tolaas) 2571.
- Toni, see DeToni.
- Toole, Wm., Sr. Plant selection. 71.
- Tores, F. Soil classification for Spain. 1801.
- Tottingham, W. E. Influence of chlorides on agricultural plants. \*178.
- Toumey, J. W. Betula in relation to reproduction of Pinus in New Hampshire. 578.—Need for forest research program in U. S. A. 1468.—Rev. of Sampson. 580, 579.—Rev. of Trelease. \*964.
- Townsend, C. O. Immune sugar-cane in Porto Rico. 2772.
- Tracy, S. M. Rhodes grass (*Chloris*). \*483.
- Trafford, F. Report forest administration, Bihar and Orissa (India), 1917-1918. 2062.
- Tragardh, Ivar. Damage by forest insects in Sweden, 1917. 2063.
- Transeau, E. N. Text book, Science of plant life. 2205.—Rev. of Coulter, M. C. 610.
- Traver, J. Natural seed dispersal. 1927.
- Trelease, Wm. Plant distribution and former land connections between Central America and Antille. 1616.—American oaks. (Rev. by Toumey) \*964.
- Trevel, C. G. Deodar attacked by fungus. 119.
- Tribolet, J. Fruit drying in South Africa. \*2406.
- Triepel, H. New modelling method. \*3059.
- Trist, M. E. (Schamberg, J. F., J. A. Kohner, G. W. Raiziss, and Trist) 830.
- Trondle, A. Influence of light on permeability. (Rev. by Hibino) 1936, 2826.
- Trotter, A. Anthracnose of chick-pea. \*120.
- Anthracnose of Cicer. 376.
- Trouard-Riolle, Y. Wild and cultivated radishes. 1556, \*1522.
- Trowbridge, C. C., and Mabel Weil. Expansion coefficient of living tree trunks. \*452.
- Trueman, J. M. Silage crops other than maize. 1895.
- Trubenbach, P. Plymouth Rocks and White Wyandottes, poultry. (Rev. by Haecker) 1482.
- Trump, see Van Trump.
- Tschirch, A. Localization of chemical work in plant, 2858.
- Tschermak, A. Crossing of domestic fowls. (Rev. by Walther) 1523.
- Tubeuf, see Von Tubeuf.
- Tuero, F. Agave cultivation in Spain. 1411.
- Tuero, F. L. Vanilla culture in Spain. 2375.
- Tuinzing, R. W. (Schouten-Ileken, W. S. J., and R. W. Tuinzing) 2874.
- Tunstall, A. C. Nectria and tea disease in India. 1664.
- Tunstall, A. C. Tea root diseases in India. 1199.
- Turconi, M. Acrothecium on pepper. 1665, \*1594.—(Pavarino, L., and M. Turconi) 2723.
- Turconi, M., and Luigi, Maffei. Mycological and pathological notes. 2773.
- Turesson, G. *Atriples* species of northern Europe. 1841.
- Turner, C. Distillation of peat. 3060.
- Turner, E. P. Reclaiming dunes in New Zealand. 581.
- Turrill, W. B. Female flowers in *Plantago lanceolata*. 2452.—*Lonicera chaetocarpa*. 2296, \*1090.—*Lonicera similis*. \*1089, 2295.
- Tuttle, G. M. Starch and oil in evergreen herbaceous leaves, especially *Linnaea*. 2859.
- Twenhofel, W. H. Pre-cambrian and carboniferous algal deposits. 2519.
- Twiss, W. C. Mitochondria in Preissia and Zea. 1942.

- Ubisch, G. Primary and secondary coupling. 298.
- Ullrich, F. T. Agricultural course for high schools. \*206.—Trees and nature-study in U. S. A. 502.
- Unger, L. J. (Hess, A. F., and L. J. Unger) 2847.
- Urban, J. Germination of beet seed. (Rev. by Popp) 2899.
- Urk, see Van Urk.
- Uzel, H. Diseases and pests of seed-beets in Bohemia, 1916-17. 2774, 2775.—Sugar-beet diseases, report of Phytopath. Div. for sugar-beet industry in Prag. 2776.
- Vadas, E. Robinia in forestry. (Rev. by Matouschek) 2698.
- Valentin, H. (Rev. of Lundborg, H.) 648.
- Valeton, Th. Zingiberaceae of Java and Malaya. 1322.
- Van Ameijden, U. P. Tropisms in absence of oxygen. 1246.
- Van den Heede, A. Conifers as ornamentals in France. 1558.—Cuphea in France. 1557.
- Van der Bijl, P. A. Paw-paw rot in South Africa. 2778.—Ring-spot of cane leaves. 377.—Sugar-cane rot in South Africa. 2777, \*2498.
- Van der Broek, M., and P. J. Schenk. Disease and enemies of garden plants. \*2779.
- Van der Lek, H. A. A. Anthracnose-resistant bean. \*72.—Breeding disease-resistant plants. \*73.—Wilt disease in Holland. 1666, \*1595, \*1762.—Rev. of Purkholder, W. H. 24.
- Van Dissel, E. D. Afforesting Dutch dunes. 582.
- Van der Wolk, P. C. Permanent modifications and mutations. 296.
- Van Fleet, W. Breeding of Freesia. 2207.—Everbearing strawberries. 74.—New everbearing strawberries. 2206.—Pillar rose. \*75.—Rose crosses. 1042, \*1091.
- Van Harreveld, Ph. Sugar-cane stripe disease in Dutch East Indies. 2657.
- Van Herwerden, M. Effects of radium on Daphnia. 1044.—Cytological discoveries. \*39.—Heredity in Daphnia. 1043.
- Van Heurn, F. C. Sodium sulphite analyses for rubber planters. 2064.
- Van Hofsten, H. (Lundborg) 648.
- Van Houten, J. M. Crown gall in apple orchards. 2780.
- Van Laer, H. Interactions of enzymes. 2882.
- Van Someren, V. G. L. Melanism in Whydahs. 297.
- Van Tieghem, P. Elements of botany. (Rev. by A. B. R.) 1898.
- Van Trump, S. H. English walnut in Oregon. \*336.
- Van Urk, H. W. Pharmacognosy, Peucedanum. 2821.
- Van Wisselingh, C. Seedcoats, Papaveraceae, etc. 2453, \*1699.—Seedcoats, Cruciferae. 2809, \*2454.
- Vaulx, see De la Vaulx.
- Vaupel, and Mellin. German Cactus-Society, meeting of January, 1919. 3025.
- Vaupel, F. Cactus culture in Germany. 3024.
- Veall, J. J. Black-spot of pear in New Zealand. \*2781.
- Venkatarama Ayyar, K. R. Spike disease of sandal. 121.
- Verdoorn, I. C. Fagara in South African herbaria. 3026.
- Verhoeven, W. B. L. Grain disinfection. 1667.
- Vermorel, and Dantony. Lime-sulphur sprays in France. 1200.
- Vevers, G. M. (Gourlay, W. B., and G. M. Vevers) 2128.
- Viardin, L. Early forest organization in Lorraine. 583.
- Viaud-Bruant. New chrysanthemums. 1559.
- Viehöver, A. Chinese colza, a new oil-seed. 2407.—A new oil plant from China. 1673.—(Alsberg, C. L., A. Viehöver, and C. O. Ewing) 1674.
- Viguier, R. Aralias cultivated in France. 1560, 1561.
- Vilmorin, Jacques de. Wheat experiments at Verrieres, 1917. 203.
- Vilmorin, J. de, and A. Meunisser. Wheat in France. 202.
- Vinal, W. G. Elementary teaching about seeds. 1928.
- Vincent, C. C. Lime-sulphur spray in Idaho. 2782.
- Vincens, F. L. Rev. of Beauveries, J. 1123.
- Vitek, E. (Urban, J., and E. Vitek) 2899.
- Visher, S. S. Geography of South Dakota. 1982.
- Vöchting, H. Polarity of plants. (Rev. by Stark) 2896.
- Voegtlin, C., and C. N. Myers. Vitamine in wheat and maize. 813.

- Vogtherr, K. Rev. by Matouschek. 56.
- Volhard, J. Action of dicyanodiamide on plant growth. \*2876.—Rev. of Arnd, Th. 1805.—Rev. of Ehrenberg, and Nolte. 2832.—Rev. of Heinrich, M. 1412.—Rev. of Münter, F. 1806.—Rev. of Pfeiffer, Th., and W. Simmermacher. 1792.—Rev. of Strell, M. 1802.
- Von Ende, C. L. (Neidig, R. E., C. W. Colver, H. P. Fishburn, and C. L. Von Ende) 446, 451.
- Von Greyerz. Identification of spruce (*Picea*). 947, 2065.
- Von Hofsten, N. Genetics (textbook). 2208.
- Von Horvath, Bela. Soil classification by electric conductivity. (Rev. by Blanck) 1801.
- Von Tubeuf, C. North American forests; Chicago to the Rocky Mountains. 2066.
- Von Tubeuf. Culture of mistletoe. (Rev. by Matouschek) 2274.
- Vries, see De Vries.
- Vuillemin, Paul. Classification of dicotyledons; Haplogones. \*1314.—Classification of the dicotyledons; Anthogones. \*1815.—Development of *Mortierella*. 379.—*Eurotium verrusulosum*. 378.—Principles of botanical classification. \*1813.
- W., J. Forest entomology in Sweden. \*510.
- Waardenburg, P. J. Blindness and congenital diseases of the eyes. 299.
- Wachter, W. H. (Jansen, P., and W. H. Wachter) 2989.
- Waentig, P. Wood preparation for fodder in Germany. 2067.
- Wagner, J. P. Horticulture in Luxemburg after the war. 1562.
- Wagner, P. Influence of seed stock on potato yield. (Rev. by Metge) 1386, 1769, 2917.
- Wagner, R. J. Hydrogen-ion concentration and immunity of plants. (Rev. by Popp) 1668, 2892.
- Waid, C. W. Muskmelon culture in Michigan. \*2391.
- Wakefield, E. M. *Fungi exotici*, xxiv. 380.—New British fungi. 381.
- Wakeman, A. J. (Osborne, T. B., J. Wakeman, and E. L. Terry) 2872.
- Wakeman, N. Teaching plant chemistry. 922, \*1202, \*1733.
- Waksman, S. A. *Azotobacter* in cranberry soils. \*1275.—Metabolism of Actinomycetes. 2883, \*2499, 2860.
- Waksman, S. A., and R. E. Curtis. Actinomycetes in the soil. \*382.
- Waldron, C. H. (Burgess, J. L., and C. H. Waldron) 1859.
- Waldron, L. R. Cross-fertilization in alfalfa (*Medicago*). 2209.—Alfalfa in North Dakota. \*188.—*Melilotus* for North Dakota. \*190.
- Waldron, L. R., and W. R. Porter. North Dakota grasses. 192.
- Waldron, L. R., and J. A. Clark. Rust-resisting spring wheat in Dakota, etc. \*795, 484.
- Waldron, R. A. The peanut (*Arachis hypogaea*) \*2455.
- Wale, B. N. Removal of hedgerows in England. 2068, \*1896.
- Walker, A. W. (Kendall, A. I., A. A. Day, A. W. Walker, and M. Ryan) 2489.
- Walkington, A. Forest planting on plowed land. 965.
- Walkom, A. B. Mesozoic flora of Queensland. 1617.—Plants from Jurassic of New South Wales. 1618.—Queensland fossil flora. 1619.
- Wallis, E. Pear-growing in Victoria. \*688, 869.
- Wallis, T. E. Amyl alcohol and sandarac for microscopy. 1852.
- Wallschlaeger, F. O. Citrus production in U. S. A. and other countries. 2376.
- Walters, J. A. T. Improvement of the veld in Rhodesia. 1413.
- Walther. Rev. of von Tschermak, A. \*1523.
- Warburton, C. W. Dwarfness in oats. \*76, 176, 2210.
- Warren, E. Pure-line hypothesis and inheritance (*Propoeolum* crosses). 2211.
- Watson, C. E. (Banington, F. W., A. Tingle, and Watson) 1712.
- Waterbury, H. E. Plant diseases in Washington [State]. \*2783.—Potato storage in Colorado. 1897.
- Watkins. Western azalea. \*2297.
- Watson, G. N. (Sayre, L. E., and G. N. Watson) 2819.
- Watson, W. Plants in flower, end of December, 1918, in England. \*1983.
- Waynick, D. D. Chemical composition and permeability. \*435.
- Waynick, D. D., and L. T. Sharp. Soil nitrogen and carbon. 870.



- Weatherwax, P. Evolution of maize. 302, 1045. (Rev. by Coulter) 985.—Experiments with maize. 303, \*1116.—Maize pollination. 301.—Maize ancestry. \*2456.—Variation in maize. 300.—Fertilization of maize. (Rev. by Yamaha) 2218, \*1943.
- Webber, H. J., and others. Frost effects on citrus in California. 2377.
- Weber, F. Viscosity of protoplasm. 1740.
- Webster, A. D. Rev. of Boulger, G. S. 9, 313.
- Weglein, C. Hereditary abnormality of little finger. (Rev. by Siemens) 1508.
- Wehmer, C. Illuminating-gas effects on plants. \*796.
- Weil, Mabel. (Trowbridge, C. C., and Mabel Weil) 452.
- Weingart, W. Flower or *Cereus aurivillius* 3027.—Minor contributions (on cacti). 3028, \*2457, 3029, \*1414.
- Weir, J. E., and E. E. Hubert. Thinning and infection of western hemlock. \*1201.
- Weir, J. R. Introduction of wood fungi into U. S. A. \*732, 797.
- Weir, J. R., and E. E. Hubert. Thinning Tsuya heterophylla and Abies grandis in relation to Echinodontium, in Idaho. 584.
- Weldon, G. P. Pear blight in California mountains. 419.
- Wells, B. W. Laboratory guide for botany courses. 1929.
- Went, F. A. F. C. Diastase formation in *Aspergillus*. 1754.
- Werner, H. O. Potato grading. 880, 913.—Potato in North Dakota. \*191.
- West, Cyril. (Kidd, Franklin, and Cyril West) 453.
- West, E. A timber decay of hemlock. \*2784.
- West, G. The diatom *Amphora inflexa*. \*2463.
- Westbrook, E. C., and A. B. Hursey. Tobacco growing and curing. 485.
- Westerdijk, J. Flax diseases in Holland. 2785.
- Wheeler, H. J. Fertilizers for gardens and orchards. \*1092, \*1093.—Potato culture in Maine. \*915.—Potatoes in Wisconsin. \*882, 1267.—Potato fertilizers in Maine. \*1266.
- Wheelwright, R. A. Native (U. S. A.) ferns as ornamentals. 1563.
- Whellens, W. H. Forestry in Scotland. 967.—Sawmill practice in Scotland. 966.
- Whipple, G. C. Vital statistics (textbook). 2212.
- Whitby, S. Variation in Hevea. 2213.
- White, E. A. Rose breeding. 304.
- White, J. W. Fertilizer experiments in Pennsylvania. 1268.
- White, O. E. Inheritance or characters in Pisum. (Anon. rev.) 228.—(Rev. by Lehman) 2160.
- Whiting, P. W. Variation in frogs. 1046.—Genetics of Ephestia (flour moth). \*669.—Color-inheritance in cats. 2214.—Genetics of flour-moth (Ephestia). 2215.
- Whitford, H. N., and R. D. Craig. Forests of British Columbia. 968.
- Whitney, D. D. Male production in Hydruntina. 670.
- Wiancko, A. T. Indiana maize yields. 486.
- Wiancko, A. T., S. D. Conner, and S. C. Jones. Legumes in Indiana. \*871.
- Wiancko, A. T., and C. O. Cromer. Spring cereals in Indiana. 487.
- Wiancko, A. T., S. D. Conner, and S. C. Jones. Legumes in Indiana. 488.
- Wicks, W. H. Cross-pollination and fruit characters in apple. 305, 2216.
- Widegren, K. A., and E. H. Forest freight transportation in Sweden. \*2069.
- Wieland, G. R. Classification of the cycadophyta. 1620.—Needs of Paleobotany. \*1621.
- Wiessmann, H. Humus brown coal as preservative for manure. (Rev. by Metge) 1768.
- Wilcox, R. B. Cranberry diseases in New Jersey. \*122, 90.
- Willert, H. Saarbrück Sphenophyllaceae. 2520.
- Williams, C. B. Report, North Carolina Agric. Exp. Sta., Agronomy. 1415, \*1776.
- Williams, R. J. Vitamine requirement of yeast. 2861.
- Williams, R. S. Desmatodon in North America. 1119.
- Willis, J. C. Age and area hypothesis (a reply). 1984.—Flora of Stewart Island, New Zealand. 1986.—Sources and distribution of New Zealand flora. 1985.
- Willmarth, C. Willmarth peat-fuel process. \*3061.
- Wilsdon, B. H. Soil survey in Punjab. 1277.
- Wilson, E. H. Forestry in Korea. 969.—Protection of laurel (*Kalmia*) in Connecticut. 2298.



- Willstätter, R., O. Schuppli, and E. W. Mayer. Chlorophyll studies, XXV. 2862.
- Winge, O. Chromosome number and type number in *Lothyrus*, etc. 306.—Non-Mendelian inheritance in variegated plants. 307.—Is gooseberry mildew poisonous? (Rev. by Matouschek). 2699.
- Winston, G. R., and H. R. Fulton. Testing copper spraying coatings. 420.
- Winston, J. R., and Fulton, H. R. Test for copper-spray coating on leaves. 2786, \*2378.
- Winters, J. C. (Sherman, Winters, and Phillips) 2875.
- Winters, R. Y. Cotton improvement in North Carolina. 167.
- Wirt, G. H. Forestry opinions from Pennsylvania. 1469.
- Wisselingh, see Van Wisselingh.
- Witte, H. Sterility in *Phelum*. 671.
- Wöber, A. Chemical composition of Bordeaux mixture. 2788.
- Wolf, F. A., and R. O. Cromwell. Stem-rot of clover. 1669, \*1596.
- Wolk, see Van der Wolk.
- Wood, R. C. Fodder drops for India. 1416.
- Woodbridge, T. R. Co-operation in California orcharding. 2379.
- Woodhams, E. L. Drug plant culture in Michigan. 1689.
- Woodhead, T. W. Botany and the farm. 207.
- Woods, F. A. Correlation of qualities. \*77. —Early Americans. \*672.—Heredity in human traits. 1047.—Kaiserism and heredity. 308.
- Woodward, K. W. German forest resources. \*970.
- Woonton, E. O. Desert plants as feed. 179.
- Wormald, H. Apple root-rot. 421.
- Wormald, H. Pathology of brown-rot of fruit-trees in England. 2787. (Salmon, E. S., and H. Wormald) 2746, 2747.
- Wormald, L. K. (Eyre, J. V., E. S. Salmon, and Wormald) 2633.
- Worsham, E. L. Cotton varieties. 1048.—Georgia Entomologist's report. 798.
- Wright, C. H. *Aloe concinna*. \*88, 2299.—*Disporum pullum*. \*1094, 1842.
- Wright, F. A. *Thitsi* (Melanorrhoea)-tapping in British India. 2070.
- Wunschendorff, H. E. Oil of fenugreek. 1734.—Protein of fenugreek (*Trigonella*) seed. 2877.
- Wurth, Th. Damage to coffee and rubber by Kloeit eruption. 2789, \*2380.
- Wyatt, F. A. (Stewart, R., and F. A. Wyatt) 2926.
- Wz., R. Physiology of *Cestrum Parqui*. 1711.
- X. French water and forest administration during the war. 3.
- Yamaguchi, Y. Rev. of Sampson. \*2863.
- Yamaha. Rev. of Allard. \*2217.—Rev. of Weatherwax. \*2218.
- Yanpolsky, Cecil. Potato seed. \*189.
- Yendo, K. Germination and development of some marine algae. 2464.
- Yoder, P. A. Sugar-cane for syrup. \*184.
- Young, H. C., and E. H. Cooper. Testing fungicides. 799.
- Youngken, H. W. Ballota and adulterant of horehound. 1703.—Dasheen and chayote. 2792.—Morphology, distribution, etc., of Myricaceae of Eastern U. S. A. 2438.
- Zacharewicz, E. Vine mildew control in France. \*2790.
- Zalla, M. Rev. of Benard, R. \*2219.
- Zee, T. N. Some ancient works on agriculture. \*639.
- Zeigler, H. E. Genetics in biology and sociology. (Rev. by Sirks) 1513.
- Zeleny, C. Bar gene of *Drosophila*. 2220.
- Zerban, F. W. Color in cane juice. 814.
- Zerban, F. W., and E. C. Freeland. Color in cane juice. 815.
- Zimmerman, C. List of Brazilian diatoms. 2465.
- Zimmerman, H. E. Blueberries. \*89.
- Zimmerman, W. Flora of Baden. 1323.
- Zon, R. Reconstruction and natural resources. (Rev. by Fernow) 2019.
- Zufall, C. J. Bermuda grass (*Capriola*) and triticum (*Agropyron*) 1701.